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PRESIDENT'S MESSAGE

Congratulations to the Editorial team of Batticaloa Medical Association (BMA) for an another release of the biannual journal of Batticaloa Medical Journal. I appreciate the editorial team for launching this journal during the COVID 19 crisis. This time due to the same reason we have restricted our journal to the digital form only. The COVID 19 taught many lessons. One of the most important lesson is that the usage of social media or digital platform to disseminate the knowledge and experience to the whole world. Even though we are apart and maintaining the social distancing, the digital platform united together as if the whole world is in our hand. The editorial board of Batticaloa Medical Association should use this opportunity to disseminate the journal through the social media to reach all the medical professional in Sri Lanka.

All the best

Dr KT Sundaresan
MBBS, MD, FRCP (Edin)
President,
Batticaloa Medical Association.
May 19, 2020

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EDITORIAL

Hydroxychloroquine Vs COVID 19

Umakanth M

The outburst of emerging severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) diseases (COVID-19) in China has been brought to global attention and declared a pandemic by the World Health Organization (WHO) on March 11, 2020. Scientific advancements since the pandemic of severe acute respiratory syndrome (SARS) in 2002–2003 and Middle East respiratory syndrome (MERS) in 2012 have augmented our understanding of the epidemiology and pathogenesis of SARS-CoV-2 and the development of therapeutics to treat viral infection (1).

Chloroquine and hydroxychloroquine (HCQ) have been extensively used for treating malaria and various autoimmune diseases, although other therapeutic effects, including antiviral effects, have been increasingly recognized (2). In-vitro studies showed that both drugs can block the viral replication of SARS-CoV2 in cell cultures, but a high-level assessment suggested that calculated extracellular lung concentrations are well below the in vitro efficacy values and therefore the drug has low potential for in vivo activity at standard dosing regimens (3).

Existing non-randomized trial has been shown (Table 1) that hydroxychloroquine is significantly associated with viral load reduction or disappearance in COVID-19 patients and its effect is reinforced by azithromycin.However, this trial has several major methodological issues, including the design, outcome measure and the statistical analyses. The study by Gautret et al. does not provide the much-needed high quality data on the efficacy of hydroxychloroquine alone or in combination with azithromycin against COVID-19 (4).

According to the critically analyzed paper, which has been written by Julian D Machiels et al , to Gautret et al, that the large proportion of individuals who were lost to follow-up in the experimental arm (6/26, 23%) is another red flag for the interpretation of study findings, especially since for some of the dropouts the inability to complete six days of follow-up was reasonably associated with treatment outcome (four transferred to intensive care, one died) or tolerability of medication (one stopped because of nausea) and one patient decided to leave the hospital (5).

Table 1 clinical trial on hydroxychloroquine and COVID-19

Author	Patients	Intervention	Conclusion
David R et al.2020 ClinicalTrials. gov number, NCT04308668. opens in new tab.	Enrolled 821 asymptomatic participants. Overall, 87.6% of the participants (719 of 821) reported a high-risk exposure to a confirmed Covid-19 contact	Within 4 days after exposure, we randomly assigned participants to receive either placebo or hydroxychloroquine (800 mg once, followed by 600 mg in 6 to 8 hours, then 600 mg daily for 4 additional days)	After high-risk or moderate-risk exposure to Covid-19, hydroxychloroquine did not prevent illness compatible with Covid-19 or confirmed infection when used as postexposure prophylaxis within 4 days after exposure
Gautret et al.2020	Hospitalized patients with confirmed COVID-19 were included in this study if they fulfilled two primary criteria: i) age >12 years; ii) PCR documented SARS-CoV-2 carriage in nasopharyngeal sample at admission whatever their clinical status. n-42	oral hydroxychloroquine sulfate 200 mg, three times per day during ten days	Hydroxychloroquine is significantly associated with viral load reduction/ disappearance in COVID-19 patients and its effect is reinforced by azithromycin

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To date, healthy clinical evidence of the efficacy of hydroxychloroquine is lacking, let alone the combination with azithromycin. The paper by Gautret et al, raised a lot of attention and contributed to a demand for the drug without the appropriate evidence of its benefit. The study by Gautret et al. showed important methodological issues and does not provide a suggestion of effectiveness. A lack of COVID-19 study subjects and a strong motivation to find a treatment is not an issue, but good quality studies are questionable.

According to the David R et al, RCT clearly shown that after high-risk or moderate-risk exposure to Covid-19, hydroxychloroquine did not prevent illness compatible with Covid-19 or confirmed infection when used as post exposure prophylaxis within 4 days after exposure. However, with so many criticisms including number of participants, clinical evidence, pharmacology and methodological issues related to this Gautret et al clinical trial findings revealed that HCQ is significantly associated with viral load reduction or disappearance in COVID-19 patients and its effect is reinforced by azithromycin.

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REVIEW ARTICLE

Physical examination in valvular aortic stenosis

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Abstract :

Aortic valve (AV) stenosis is one of the most common valvular diseases and is the third most common cardiovascular disease in developed countries. It occurs in ≈2.8% of patients ≥75 years of age. Physical examination still plays a key role in the bedside diagnosis of aortic stenosis (AS) even in modern era. It remains a valuable and cost-effective tool that often enables a rapid, integrative, accurate and patient-orientated diagnosis of aortic valve disease.

Keywords:

Aortic stenosis, murmur, heart sound

Abbreviation:

AV - Aortic valve, AS-Aortic stenosis, S_1-First heart sound, S_2-Second heart sound, ASD- Atrial septal defect, MR-Mitral regurgitation.

Introduction:

Aortic valve stenosis is the most common cause of left ventricular outflow obstruction in children and adults. As aortic valve disease, especially aortic stenosis, has an increasing prevalence worldwide, a good screening tool for the selection of patients being referred for further evaluation and/or intervention is always needed. Physical examination has remained the main stage of bedside diagnosis of cardiovascular disease for centuries. AS is typically asymptomatic for a prolong period despite the obstruction and increased pressure load on the left ventricle. In most patients with AS and normal LV systolic function symptoms uncommonly occur until stenosis is severe. The most common presenting symptom of AS are

- Dyspnea on exertion or decreased exertion to tolerance
- Exertional dizziness (presyncope) or syncope
- Exertional angina

Physical examination in modern era

Unfortunately, expertise and proficiency in auscultation has been declining in the current era and new technology and development has been trying to replace. In the recent part, there are advanced bed side diagnosis equipment such as electronic stethoscope, handheld ultra sound or echocardiographic devices, which have been used increasingly. Some benefits of handheld ultrasound versus physical examination for diagnosis of different cardiac disease shown in several studies.[1,2,3]

A systemic review by Stanger et al showed that the sensitivity and specificity of insonation in identifying AS ranged from 62% to 94% and 85% to 98% respectively and that these ranges were similar to auscultation.4 Auscultation is of low sensitivity (56.6 - 73%) in detecting aortic valve lesions compared to echocardiography but has a high specificity (92 - 98%).[5,6]

Sensitivity of detecting aortic valve lesions were low in subjects with aortic regurgitation (AR), mild valve lesions, and in patients with significant lesions and concomitant left ventricle systolic dysfunction.5 Regarding the diagnosis of AR, studies have found a sensitivity of 0% to 38% for mild AR and 60% - 80% for moderate or greater AR.[7]

Clinical Anatomy

The normal aortic valve has three leaflets, the right, left and noncoronary leaflet. The right coronary artery arises from the right cusp, and the left coronary artery arises from the left cusp. The normal aortic valve has an area of 3–4 cm 2.

Definition

=Aortic stenosis is a pathologic narrowing of the aortic valve.

Physical examination of valvular aortic stenosis

Examination of carotid pulse, palpation and auscultation of precordium are very valuable and provide clue to the presence of aortic stenosis and severity of lesion (Table1).

Carotid pulse:

In normal subjects, it is characterized by a relatively rapid upstroke and a smooth, more gradual down stroke, interrupted only briefly in the pulse peak. In patients within significant

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AS, the carotid pulse is weak (pulsus parvus), rises slowly and has a delayed systolic peak (pulsus tardus). It is best appreciated in the carotid artery where the pulse is reduced in amplitude and delayed in occurrence. These can be absence in elderly patients with non-complaint vasculature.[8]

Palpation of precordium:

The precordial apical thrust is accentuated and initially normal in location and a bifid apical impulse is sometimes felt in left lateral decubitus position in isolated as. The first impact comes from the left atrial contraction (presystolic gallop) and the second impulse from the LV contraction. A systolic thrill may be felt at the right intercostal space (aortic area) or at the sternal notch, especially during full expiration with the patient leaning forward. A low - intensity and/or displaced systolic apical impulse could be a sign of low - flow AS or may be caused by other associated cardiac condition.

Cardiac Auscultation:

Findings suggest both the diagnosis and seventy of AS.

Heart sounds:

First heart sound (S_1) is normal. Second heart sound (S_2) is soft and single. In severe AS associated with LV dysfunction. S_2 may become paradoxically split. An aortic ejection clinic is more commonly heard with a congenital bicuspid valve, and heard after S_1 early in AS. A vigorous left atrial contraction against a stiff, noncompliant ventricle can produce an S_4.

Murmur:

It is an ejection systolic murmur with onset a short interval after the S_1 and ends before S_2. Aortic ejection clicks precedes the murmur if valve is still flexible. It is commonly best heard in 2nd right intercostal space (aortic area), but if could be also audible along the left sternal border in the 3rd and 4th intercostal spaces. As it is usually harsh and medium pitched, it is audible with either bell or diaphragm of the stethoscope.

It is characteristic diamond shape in the phonocardiogram. In majority, the murmur is loudest in the aortic area but it can be better heard at the apex in 15% of cases.[9] The murmur is transmitted well and equally to the carotid arteries and both clavicles. The absence of the transmission of the murmur over the right clavicle effectively rules out AS.[10]

Gallavardin Phenomenon:

The murmur may also radiate to the apex of heart where it has different quality (musical due to high frequency vibration) and may be louder. This is called as Gallavardin phenomenon. It has lead the misperception that the patient also has mitral regurgitation.

Table1: Typical physical examination findings of AS

Physical examination	Finding
Carotid pulse	Low volume and slow rising
Cardia apex	Thrusting and normal location
S_1	Normal
S_2	Soft, single
Murmur	Systolic ejection murmur, Best heard in aortic area, radiates to carotids and clavicles

Differential Diagnosis

The AS murmur should be differentiated from other conditions that can cause a basal systolic murmur.

Functional murmur:

These are generally faint, medium - pitched and very short. S_2 is usually normal.

Hypertrophic obstructive cardiomyopathy:

It is an ejection systolic murmur heard along the left sternal border and the apex. It is amplified by exercise, squatting Valsalva maneuver or administration of vasodilator or positive inotropic agents.

Supra-valvular aortic stenosis :

It produces most of the signs of valvular stenosis and systolic click is absent. S_2 is accentuated and carotid murmurs are very loud.

Hypertension or aortic sclerosis:

It could have a similar harsh, medium - pitched murmur but with a normal or even loud S_2.

Pulmonary stenosis:

It has similar configuration, intensity and pitch to AS but it is heard loudest at the pulmonary area and S_2 is widely split.

ASD:

It produces murmur similar to pulmonary stenosis but S_2 is wide and with a fixed split.

It AS murmur radiates to apex, following clinical hints (Table2) help to differentiate from mitral regurgitation(MR).

Table:2 Clinical features help to differentiate AS from MR if AS murmur radiates to apex

Clinical features help to differentiate AS from MR if AS murmur radiates to apex
Apical impulse - Normal in location
First heart sound - Normal
It is not holosystolic
It is not transmitted to axilla

Clinical signs of severe aortic stenosis

Several physical signs help in the diagnosis of severe AS but no combination of physical signs has both a high sensitivity and specificity, particularly in a asymptomatic patient.

a. Sensitivity of the Murmur:

The intensity of the murmur reflects the velocity of blood flow across the valve. A very loud murmur (grade iv or greater) has a high specificity for severe AS. Despite of high specificity, the intensity of murmur has a low sensitivity in diagnosing severe AS as it depends on the haemodynamic status. Murmur intensity decreases in low left- ventricular ejection fraction or low stroke volume where as it is frequently augmented in hyperdynamic states.[11]

b. Absent or diminished S_2

Aortic cusps are immobile in severe aortic stenosis. So aortic component of the second heart sound in faint or even not

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audible. Only 9% had an absent S_2 in a series of 397 patients with AS at their first hemodynamic evaluation.[12]

c. A Mid or Late - Peaking of Murmur:

In severe AS, it takes longer for blood to be ejected through valve. So severe AS would has a late peaking murmur, which in mild AS, the murmur peaks at early in systole.

d. Paradoxical Splitting of the S_2

The paradoxical splitting of S_2 occurs when the transaortic pressure gradient is very high and the aortic valve closes after the pulmonary valve. It is more obvious during expiration. The degree of prolongation of left ventricular ejection time above that predicted stroke volume is closely correlated with aortic valve area. In patients with failing ventricles, the ejection time was less prolonged and the duration of ejection was unrelated to the valve area.[13]

e. Presence of Presystolic Gallop (fourth heart sound) or Atrial Gallop

Due to forceful atrial contraction into a hypertrophied, non - compliant left ventricle, a prominant S_4 can be audible and palpable.[9] Presence of an S_4 in a young patient with AS indicates a significant AV lesion but in elderly or hypertensive person this not necessary true because it can be related to the very common diastolic dysfunction.

f. Parvus et Tardus carotid pulse

Occlusion of more than 75% of the aortic orifice produces a plateau pulse and diminished pulse pressure that can be objectified by carotid or peripheral pulse palpation. Pulsus tardus is the better discriminator, detecting severe AS with a sensitivity of 31% to 90% and a specificity of 68% to 93% because of its two components.[14]

Conclusion

If we are aware of the limitations and strengths of physical examination, it could be succeed in keeping the expertise and proficiency in cardiac auscultation. Then clinical examination remains a valuable and cost-effective tool that often enables a rapid, integrative, accurate and patient-orientated diagnosis of aortic valve disease. Physical examination still plays a crucial role in the screening, diagnosis and evaluation of the severity of aortic valve stenosis, even in modern era.

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CLINICAL UPDATE

COVID-19 virus infection in pregnancy

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Abstract :

The pandemic COVID 19 virus infection has created a panic wave among laypeople and among health staff. However, the estimates of case fatality ratio from international cases stratified by age were consistent with those from China1.4% in those under the age of 60 years and 4.5% in those aged over 60 years. Therefore, most are self -limiting and not life-threatening. The pregnancy is not a risk factor for the infection. But the mortality and morbidity increase in pregnancy because of physiological changes occurring in pregnancy. This review article guides the management of this infection in pregnancy.

Keywords: COVID 19, virus infection in pregnancy

Introduction

Most cases of COVID-19 globally have evidence of human to human transmission through the direct close contact with an infected person and indirectly via the touch of contamination with respiratory secretions. The pregnancy is not a risk factor for the viral infection including for COVID-19. However, it causes more severe symptoms, particularly towards the end of pregnancy, because of the changes in body's immune system. The absolute risks are, however, small. There is no evidence for intrauterine transmission of COVID-19 from infected pregnant women to their fetuses. There are currently no data suggesting an increased risk of miscarriage or the virus is teratogenic.

Clinical symptoms

The incubation period for COVID-19 of 0-14 days (mean 5-6 days). Common symptoms have included:

- Fever
- Cough
- Myalgia
- Fatigue

Less-common symptoms have included:

- Headache
- Sputum production
- Diarrhea
- Malaise
- Shortness of breath/dyspnea
- Respiratory distress

The most common serious manifestation of COVID-19 appears to be pneumonia and an important cause of morbidity and mortality among pregnant women. Early identification and treatment of symptoms of pneumonia and marked hypoxia are important. Wu and McGoogan reported that among 72,314 COVID-19 cases reported to the Chinese Centers for Disease Control and Prevention (CCDC),81% were mild (absent or mild pneumonia), 14% were severe (hypoxia, dyspnea, >50% lung involvement within 24-48 hours), 5% were critical (shock, respiratory failure, multiorgan dysfunction), and 2.3% were fatal.

Screening of pregnant mothers for COVID 19

- During the COVID-19 epidemic period, a detailed history regarding recent travel, occupation, significant contact and cluster (TOCC) and clinical manifestations should be acquired routinely from all pregnant women attending for routine care.
- On presentation to triage areas, pregnant patients with TOCC risk factors should be placed in an isolation room for further assessment.
- Pregnant patients with known TOCC risk factors and those

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with mild or asymptomatic COVID-19 infection should delay antenatal visit and routine ultrasound assessment by 14 days.

Management of Suspected/probable cases

- ***General treatment:*** Maintain fluid and electrolyte balance; provide symptomatic treatment, such as antipyrexic and antidiarrheal medicines.
- ***Surveillance:*** Close and vigilant monitoring of vital signs and oxygen saturation level to minimize maternal hypoxia; conduct arterial blood-gas analysis; repeat chest imaging (when indicated); regular evaluation of complete blood count, kidney and liver function testing, and coagulation testing
- ***Fetal monitoring:*** Undertake cardiotocography (CTG), and ultrasound assessment of fetal growth and amniotic fluid volume with umbilical artery Doppler. Note that monitoring devices and ultrasound equipment should be disinfected adequately before further use.
- The management of pregnancy is according to the clinical and ultrasound findings, regardless of the timing of infection during pregnancy.
- Postpone all routine follow-up appointments by 14 days or until positive test results (or two consecutive negative test results) are available.

Management of women with mild symptoms of COVID-19 during admission in antenatal, intrapartum or postnatal period

- Provide surgical face mask to wear
- Isolate them with infection control precautions for initial assessment
- Assess her fully to determine the severity
- Investigate for possible Covid19 infection, amongst other differential diagnoses.
- Consider testing for COVID-19 if lymphopenia is identified on the full blood count, or the woman has other symptoms suggestive of COVID-19.
- Take chest X-ray with abdominal shield
- Maintain fluid and electrolyte balance, symptomatic treatment, and surveillance is the same as for suspected/probable cases.
- There is no proven antiviral treatment for COVID-19 patients,
- Monitoring for bacterial infection with blood culture, mid-stream or catheterized-specimen urine microscopy and culture.
- Timely use of antibiotics when there is evidence of secondary bacterial infection.
- Avoid empirical or inappropriate use of antibiotics when there is no clear evidence of secondary bacterial infection.
- Fetal monitoring: undertake CTG for FHR monitoring when pregnancy is ≥26–28 weeks of gestation, and ultrasound assessment of fetal growth and amniotic fluid volume with umbilical artery Doppler.

Management of women with confirmed COVID-19 and moderate/severe symptoms

- Severe pneumonia is associated with a high maternal and perinatal mortality rate. Stabilize the woman with standard therapies, therefore, aggressive treatment is required, including supporting measures with hydration, oxygen therapy, and chest physiotherapy.
- Manage in a negative-pressure isolation room in the ICU, preferably in a left lateral position, with the support of a multidisciplinary team.
- Assessment of the severity of COVID-19 symptoms by the most senior available clinician
- ***Antibacterial treatment:*** Use appropriate antibiotic with or without antiviral treatment promptly when there is suspected or confirmed secondary bacterial infection.
- ***Blood-pressure monitoring and fluid-balance management:*** Undertake conservative fluid management in patients without septic shock. Both fluid resuscitation and inotropes are required in patients with septic shock, to maintain an average arterial pressure ≥60 mmHg (1 mmHg = 0.133 kPa) and a lactate level < 2 mmol/L.
- ***Oxygen therapy:*** Provide supplemental oxygen to maintain oxygen saturation ≥95%; Give oxygen promptly to patients with hypoxemia and/or shock, and method of ventilation should be according to the patient's condition and following guidance from the intensivists and obstetric anesthetists.
- ***Fetal monitoring once the patient is stabilized:*** CTG and ultrasound assessment of fetal growth and amniotic fluid volume and umbilical artery Doppler.
- ***Delivery:*** the multidisciplinary team should consider preterm delivery on a case-by-case basis.

Signs of decompensation

1. Drowsiness, even if the saturation is normal.
2. Respiratory rate > 30/minutes
3. Increase in oxygen requirements or FiO2 > 40%.
4. Reduction in urine output,

Healthy women can compensate during a deterioration in respiratory function and can maintain normal oxygen saturations before sudden clinical decompensation

Intrapartum care

- The care should be in the same isolation room.
- Minimize the number of staff members entering the room.
- Inform to the members of the MDT: consultant obstetrician, consultant anaesthetist, midwife-in charge, consultant neonatologist, and infection control team
- Maternal monitoring- temperature, respiratory rate and

oxygen saturations. Aim to keep oxygen saturation more than 95%.

- If she develops a fever, investigate and treat sepsis in pregnancy, but also consider active COVID-19 as a cause.
- Monitor hourly fluid input/output charts. Aim to achieve neutral fluid balance in labour to avoid the risk of fluid overload.
- Arrange continuous electronic fetal monitoring in labour as there is an increased risk of fetal compromise in active phase of labour if infected with COVID-19.
- If the woman's symptoms deteriorate, make an individual assessment regarding the risks and benefits of continuing the labour versus preceding to emergency caesarean birth if this is likely to assist efforts to resuscitate the woman.
- Give sufficient notice to neonatal team at the time of birth, to allow them to attend and don PPE before entering the room/theatre.
- If there are no other contraindications, the delayed cord clamping is beneficial following birth

Mode of delivery

- obstetric indications determine the need for intervention and COVID-19 infection should not influence it unless the woman's respiratory condition demands urgent intervention for birth.
- Consider an elective instrumental delivery to shorten the length of the second stage of labour in a symptomatic woman who is becoming exhausted or hypoxic.
- The woman is at risk for venous thromboembolism. Therefore, administer the first dose of LMWH, if there is no contraindication, following delivery as soon as possible

Specific peri-operative advice for healthcare professionals caring for pregnant women with suspected/confirmed COVID-19 who require surgical intervention.

- Schedule elective obstetric procedures such as cervical cerclage or elective caesarean at the end of the operating list.
- Keep staff in minimum in the operating theatre.
- Train all staff in using PPE.
- organize a dry-run simulation exercises to prepare staff, build confidence and identify areas of concern to prepare for emergency transfers to the operating theatre.

Postnatal care

Neonatal care

Keep women and healthy babies, not otherwise requiring neonatal care, together in the immediate postpartum period. Take the following precautions to limit viral spread to the newborn: ask someone who is well to feed the baby.

- Wash hands before touching the baby, breast pump or bottles.
- Avoid coughing or sneezing on the baby while feeding.
- Consider wearing a fluid-resistant surgical face mask, if available while feeding or caring for the baby.
- Where women are expressing breastmilk in hospital, use a dedicated breast pump.
- Follow recommendations for pump cleaning after each use.
- strictly adherence to sterilization guidelines for the babies on bottled-fed with formula or expressed milk

Discharge and readmission to hospital.

Antenatal care for pregnant women following self-isolation for symptoms suggestive of COVID-19

- No additional tests, including ultrasound assessment of fetal growth, are necessary for women who have not required hospitalization for COVID-19.
- If a woman has previously tested negative for COVID-19 and she re-presents with symptoms that meet the case definition, suspect COVID-19 due to the rate of false -negative results from COVID-19 nasopharyngeal swabs.
- On discharge from hospital following a period of care for confirmed COVID-19, prescribe of prophylactic LMWH for all women for at least 10 days regardless of the mode of delivery.
- Educate families about how to identify signs of illness in their newborn or worsening of the woman's symptoms
- Emphasize the usual advice about safe sleeping and a smoke free environment.
- Advice on hand hygiene and infection control measures when caring for and feeding the baby.
- all families self-isolate at home for 14 days after the birth of a baby to a
- woman with active COVID-19 infection.
- Postnatal care should offer a combination of face-to-face and remote postnatal follow-up, according to the woman and baby's needs.
- Midwives should wear appropriate PPE and follow social distancing and infection control guidance when review face-to-face in the community

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CLINICAL UPDATE

Public events and covid-19 pandemic in Sri Lanka.

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Abstract :

Public events and social gatherings are basic need of a community for its productive involvement, experience and development. Public events considered as inevitable for community engagement, mobilization & empowerment which are major pillar of community development.Social distancing measures, such as cancellation or postponement of mass gatherings, reduce opportunities for person-to-person virus transmission and can help delay the spread and slow the exponential growth of disease spread. The optimal strategy is to implement these measures simultaneously in places where people gather. Health measures should be strictly adhered and societal commitments are necessarily improved in unavoidable public events to prevent Covid-19 spread locally.

Keywords: Public events, social gatherings and Covid-19

Introduction

Public events and social gatherings are basic need of a community for its productive involvement, experience and development. Public events considered as inevitable for community engagement, mobilization & empowerment which are major pillar of community development.

On 11th March 2020, the World Health Organisation declared that theCovid-19 novel coronavirus had become a global pandemic. By the current date, 10th July, health systems in numerous countries are still being overwhelmed by the impact of the outbreak and over 550,000 people have lost their lives to the virus. Sri Lanka experienced more than 2500 confirmed Covid-19 cases and 11 lives were lost till 15th July, which is within 10 least case fatality rate (0.44) across the globe. Health department in collaboration with defence and police department, took the overall coordination, to prevent community spread and control Covid-19 pandemic crisis in Sri Lanka.

As per the ministry of health guidelines & instructions, public events & gatherings need to be avoided. In unavoidable situations, assessment of risk over benefit needs to take into account the social consequences and health impact. As such, a careful risk assessment and staged approach is needed to balance the benefits and potential harms of adjusting these measures, so as not to trigger a resurgence of Covid-19 cases and jeopardize the health of the population. Health measures should be strictly adhered and societal commitments are necessarily improved in unavoidable public events to prevent Covid-19 spread locally.

Preventive measures

Decisions on conducting an event or social gathering should be made in light of the risk assessment, the capacity to implement preventive measures, and recommendations of national authorities for adjusting public health and social measures in the context of Covid-19.

Universal measures for all public events such as festivals, musical events, brand launches and religious gatherings for preventing transmission of Covid-19, that apply to all people at the event, such as performers, participants, event- managers, audience, customers and street vendors, include the following:

Basic precautions

1. **Social distancing**

- Control the people flow and make sure that 1-meter physical distance is maintained, throughout the period of event. (I.e. hugging, touching, shaking hands), strict control over external access, queue management (marking on the floor, barriers).

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- Controlled entry and exit from venue is necessary to avoid any pooling and mixing of people. Take relevant measures to avoid unnecessary gatherings, queues outside the premises of event, cark parks and roads.

2. Hand hygiene

- Regular and thorough hand washing with soap and water or hand hygiene with alcohol-based hand-rub at the entrance, before eating, frequently during the event, especially after contact with co-workers or participants or audience, after going to the bathroom, after contact with potentially contaminated objects (gloves, clothing, masks, used tissues, waste), and immediately after removing gloves and other protective equipment but before touching eyes, nose, or mouth.
- Hand hygiene stations, such as hand washing and hand rub dispensers, should be put in prominent places around the event hall (whether out door or in door) and be made accessible to all staff, participants and visitors along with communication materials to promote hand hygiene.

3. Respiratory hygiene

- Promote respiratory etiquette by all the people being part of the event, such as, co-workers, participants or audients. Ensure that face masks and paper tissues are available at the event hall, for those who develop a runny nose or cough at work, along with bins with lids for hygienic disposal. Cover your mouth and nose when you cough / sneeze, using the inner side of your elbow or a tissue (and immediately dispose of the tissue into a closed bin).

4. Wearing a mask

- Develop a policy on wearing a mask or a face covering in line with national or local guidance. Masks may carry some risks if not used properly.
- All the employees, Participants, audience and visitors must wear a mask throughout the event.
- If an employee is sick, they should not come to work. If a member of staff or a worker feels unwell while at work, provide a mask so that they may get home safely. Where masks are used, whether in line with government policy or by personal choice, it is very important to ensure safe and proper use, care and disposal.

Additional Precautions.

- All the employees and performers should be trained on necessary measures in relation to personal protection and precautions, such as, respiratory etiquette (cover mouth and nose with elbow when sneezing/coughing, avoiding frequent touching of face), avoiding unnecessary contact with frequently touched surfaces and objects, hand hygiene, physical distancing (whenever possible), and correct way of wearing masks (when required)
- It's advisable to get the prior approval for the event or program with necessary health measures. Further, all staff members and participants must be verbally screened before entering into the event hall.
- Provision of separate washroom, toilet and changing room for staff/employees and participants/audience will minimize the crowding and possibility of frequent touching of objects by unknown people.
- Decide and plan the event, marketing campaign, audience, location, duration, time of the day, and number of participants to the event facilitating COVID-19 preventive measures. Decide on other affecting aspects to the event such as weather, other events nearby, other mass gatherings.
- Is organizers responsibility to ensure strict adherence of all the health measures throughout the Event/Program.

Conclusion

Covid-19 pandemic has restricted the public gathering and social events remarkably. Health guidelines has clearly stated to limit/avoid the public events to prevent Covid-19 community spread. Required health measures must be in place if an Event or Public gathering is inevitable. It must be coupled with cultivating certain qualities and social good manners by the General Public to ensure the basic requirements of precautionary measures, such as, Social Distancing, Wearing Mask, Hand Hygiene and Respiratory Etiquette, were followed up.

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CLINICAL UPDATE

Facing the challenges in the surgical management of chronic autoimmune thyroiditis by using an algorithm

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Abstract :

Clinical presentation, thyroid morphology and functional status of chronic autoimmune thyroiditis vary widely. Thyroid malignancies can be coexisting with this disease entity. Difficulties are faced in the decision making for surgical management of patients with thyroiditis. Use of ultrasonography has proven value in the diagnosis of thyroiditis and evaluating the thyroid nodules. An algorithm was used for diagnosis of patients with chronic autoimmune thyroiditis and management of thyroid nodule. This clinical update outlines the usefulness of the algorithm to face the challenges in the surgical management of thyroiditis patients.

Keywords:

Chronic auto immune thyroiditis, FNAC, TPO antibody, USS thyroid, thyroid malignancy, thyroidectomy.

Introduction

Clinical presentation of patients with chronic auto immune thyroiditis varies widely. Thyroid morphology and functional status are not unique in this disease entity (1). Anti thyroid peroxidase antibody (TPO Ab) and Fine Needle Aspiration Cytology (FNAC) assessment have been used to confirm the diagnosis (2). Rosairo et al reported the sensitivity and the specificity of ultrasonography in diagnosing thyroiditis to be 89.47% and 96.3% respectively. Its positive predictive value was 94.4% (3). It has also been shown that using the combination of the ultrasonographic features suggestive of malignancy in a thyroid nodule will improve the diagnostic accuracy of identifying malignant nodules in thyroid (3).The frequency of thyroid malignancy in patients with chronic auto immune thyroiditis varies between 0.5 and 23.5% (4). Sriweera et al carried out a retrospective study in Sri Lanka on histopathology records of 349 thyroidectomy specimens with chronic auto immune thyroiditis, revealed malignancies in 46 cases (13.18%). Types of malignancies detected were papillary carcinoma (9.46%), follicular carcinoma (2.29%), Non-Hodgkin's lymphoma (0.86%), medullary carcinoma (0.29%), and anaplastic carcinoma (0.29%) (5).

Majority of the patients with thyroiditis are managed conservatively. There are no clear guidelines available in the literature for the surgical management of chronic autoimmune thyroiditis. Decision making about surgical intervention could be challenging in some thyroiditis patients who have clinically suspicious nodules. This clinical update describes an algorithm used for the surgical management of patients with thyroiditis.

Methodology

An institutional based cross sectional study was carried out in the surgical clinic at Teaching Hospital Jaffna from January 2009 to January 2020. The study analysed the spectrum of clinical profiles in chronic auto immune thyroiditis patients attending the surgical clinic. The clinical profiles analysed were the clinical presentation, thyroid functional status, thyroid peroxidase antibody (TPO Ab) status, Fine Needle Aspiration Cytology (FNAC) findings, Ultrasonographic (USS) assessment of thyroid and thyroid malignancies confirmed by histopathology report. The study utilized the algorithm mentioned below for diagnosis of patients with chronic auto immune thyroiditis and management of thyroid nodule.

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Algorithm used for diagnosis and management of chronic auto immune thyroiditis:

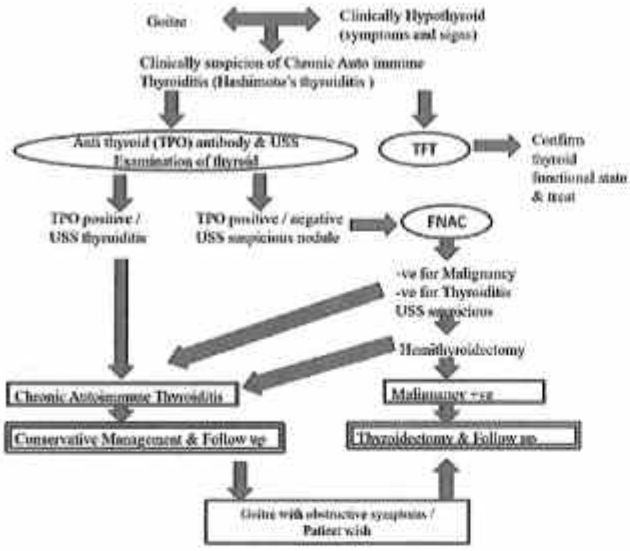

Table 1: Results of TPO, FNAC and USS with thyroid status

Investigation		TPO (n= 55)		FNAC (n= 104)		USS (n=110)	
Thyroiditis		+	-	+	-	+	-
Thyroid Functional State	Euthyroid	16	02	32	07	25	14
	Hypothyroid	33	02	56	04	50	15
	Hyperthyroid	02	00	05	00	03	03
Not done		70		21		15	

Out of 275 patients with thyroid diseases registered to the surgical clinic, 125 (45.5%) had chronic auto immune thyroiditis confirmed by either TPO Ab or FNAC or by histopathology. Among these 125 patients with thyroiditis, 53.6%, 16% and 30.4% had diffuse goitre, multinodular goitre and solitary nodule respectively. Furthermore, 59.2%, 35.2% and 5.6% of patients with chronic auto immune thyroiditis were hypothyroid, euthyroid and hyperthyroid state respectively.TPO Ab test was performed only in 55(44%) patients, among them 92.7% had positive result for TPO Ab. An USS of thyroid gland was performed on 110 patients. It revealed sonographic features suggestive of thyroiditis in 78 patients (70.9%). Among the 125 patients with chronic auto immune thyroiditis 28 patients underwent thyroidectomy using the algorithm mentioned above. 11 thyroidectomy specimens revealed coexisting thyroid malignancies.

Thyroid malignancies detected by FNAC

FNAC revealed papillary carcinoma in four patients and malignancy was confirmed by histopathology report of thyroid specimen.

Thyroid malignancies detected by USS

Thirteen patients underwent hemithyroidectomy for suspicious nodule on USS evaluation. Histopathology report of thyroid gland specimens revealed the presence of thyroid malignancy in five patients (4 papillary carcinomas and 1 follicular carcinoma) and thyroiditis in eight patients.

Thyroid malignancies detected in multinodular goiters

Apart from this, there were 11 patients with thyroiditis and multinodular goitre who underwent total thyroidectomy for obstructive symptoms. Analysis of histopathology report of thyroid gland specimens of these patients revealed the presence of malignancy in two patients (one follicular carcinoma and one oncocytic carcinoma), colloid nodule in one patient, adenoma in one patient and thyroiditis in seven patients

Conclusion

As there is a risk of having associated malignancy, it is important to have a guideline / algorithm, utilizing the investigations available in Sri Lankan hospital set up, for diagnosis and management of patients with chronic auto immune thyroiditis. The algorithm used in this study would help to make decision for the surgical intervention in patients with thyroiditis.

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Brief Clinical update on COVID-19

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Abstract :

Coronavirus disease 2019 (COVID-19) is a kind of respiratory tract infection with an unusual outbreak in Wuhan, China, in December 2019, which is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). COVID-19 is a declared global pandemic. The COVID-19 can present as an asymptomatic carrier state, acute respiratory disease, and pneumonia. Modes of transmission traced in an imported case are through droplet transmission, fecal-oral route, conjunctiva and fomites. The virion is stabilized at lower temperatures, i.e., 4°C has higher survival than 22°C . As SARS-CoV-2 virions are shed throughout the clinical course, patients with COVID-19 can spread the infection prior to symptom presentation, during the symptomatic course and during the clinical recovery period. The disease is mild in most people, in some (usually the elderly and those with comorbidities), it may progress to pneumonia, acute respiratory distress syndrome (ARDS) and multi organ dysfunction. Many people are asymptomatic.

Keywords

Coronavirus disease 2019, COVID-19 and SARS-CoV-2

Introduction

Novel coronavirus induced pneumonia, which was named as coronavirus disease 2019 (COVID-19) by the WHO on the 11th of February 2020, has rapidly increased in epidemic scale since it first appeared in Wuhan, China, in December 2019(1). A total number of 693,224 laboratory-confirmed cases have been documented globally as of March 30th, 2020, including 33,106 deaths(2). Modes of transmission traced in an imported case are through droplet transmission, fecal-oral route, conjunctiva and fomites. The virion is stabilized at lower temperatures, i.e., 4°C has higher survival than 22°C . As SARS-CoV-2 virions are shed throughout the clinical course, patients with COVID-19 can spread the infection prior to symptom presentation, during the symptomatic course and during the clinical recovery period.In addition, nosocomial infection of hospitalized patients and healthcare workers, and viral transmission from asymptomatic carriers are possible. Treatment is essentially supportive; role of antiviral agents is yet to be established. Prevention entails home isolation of suspected cases and those with mild illnesses and strict infection control measures at hospitals that include contact and droplet precautions. The virus spreads faster than its two ancestors the SARS-CoV and Middle East respiratory syndrome coronavirus (MERS-CoV), but has lower fatality(3).

Virology

Coronaviruses which are enveloped RNA viruses ranging from 60 nm to 140 nm in diameter with spike like outcrops on its surface giving it a crown like appearance under the electron microscope; therefore the name coronavirus . There are four structural proteins of COVID-19 include the spike surface glycoprotein (S), small envelope protein (E), matrix protein (M), and nucleocapsid protein (N). In coronaviruses, the S gene codes for the receptor-binding spike protein that enables the virus to infect cells. This spike protein facilitates receptor binding and membrane fusion, which governs host tropism and transmission capabilities.

Corona viruses are four sub types such as alpha, beta, gamma and delta corona virus. Each of sub type corona viruses has many serotypes. Alpha-coronaviruses and beta-coronaviruses are found exclusively in mammals, whereas gamma-coronaviruses and delta-coronaviruses primarily infect birds. Fascinatingly,

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observation of coronaviruses in wild animals has led to the detection of the extreme variety of coronaviruses in bat and avian species, which suggests that these animals are the natural reservoirs of the viruses. Four corona viruses namely HKU1, NL63, 229E and OC43 have been in circulation in humans, and generally cause mild respiratory disease.

COVID-19 has a single-stranded positive sense RNA genome that is ~30,000 nucleotides in length. The genome encodes 27 proteins including a RNA-dependent RNA polymerase and four structural proteins. RNA-dependent RNA-polymerase acts in combination with nonstructural proteins to maintain genome consistency. A region of the RNA-dependent RNA-polymerase gene in COVID-19 was shown to be highly similar to a region of the RNA-dependent RNA-polymerase gene found in bat coronavirus RaTG13 and 96% similar to the RaTG13 overall genome sequence(4).

Pathogenesis

Infection is carried through large droplets produced during talking, coughing and sneezing by symptomatic patients but can also occur from asymptomatic carriers. Recent studies have revealed that higher viral loads in the nasal cavity as compared to the throat with no difference in viral burden between symptomatic and asymptomatic people. Patients can be infectious for as long as the symptoms last and even on clinical recovery .COVID-19 infection is attained both by inhalation of these droplets or touching surfaces contaminated by them and then touching the nose, mouth and eyes. The COVID-19 is also present in the stool and contamination of the water supply and subsequent spread via aerosolization/feco oral route is also expected. Patients can be infectious for as long as the symptoms last and even on clinical recovery. These infected droplets can spread 1–2 m and deposit on surfaces. The virus can remain viable on surfaces for days in favorable atmospheric conditions but are destroyed in less than a minute by common disinfectants like sodium hypochlorite, hydrogen peroxide etc. The incubation period varies from 2 to 14 d [median 5 d]. Studies have identified angiotensin receptor 2 (ACE2) as the receptor through which the virus enters the respiratory mucosa(5).

Clinical features

The symptoms of COVID-19 infection seem after an incubation period of approximately 5.2 days. The period from the onset of COVID-19 symptoms to death ranged from 6 to 41 days with a median of 14 days .However, this period is dependent on the age of the patient and status of the patient's immune system. It was shorter among patients> 70-years old compared with those under the age of 70. The most common symptoms at onset of COVID-19 illness are fever, cough, and fatigue, while other symptoms include sputum production, headache, haemoptysis, diarrhoea, dyspnoea, and lymphopenia(6) .Clinical features revealed by a chest CT scan presented as pneumonia, however, there were abnormal features such as RNAaemia, acute respiratory distress syndrome, acute cardiac injury, and incidence of grand-glass opacities that led to death. In some cases, the multiple peripheral ground-glass opacities were observed in subpleural regions of both lungs that likely induced both systemic and localized immune response that led to increased inflammation. Unfortunately, treatment of some cases with interferon inhalation showed no clinical effect and instead appeared to worsen the condition by progressing pulmonary opacities (6).

Differences between COVID-19, common cold, and flu

Common cold is caused by a countless of viruses. Majority of which are Rhinoviruses. Common cold and COVID-19 both have a gradual course to symptom presentation in comparison to the flu which is caused by the various strains of Influenza (Orthomyxovirus family). Pyrexia is rare in the common cold but is the most notable symptom in both COVID-19 and flu. Presentation of cough and fatigue is rare in the common cold. Coryzal symptoms such as rhinorrhea and nasal congestion are predominant in the common cold and are rare in flu and COVID-19.

COVID-19 presents similar to Influenza flu as both these are diseases of the respiratory system. In both diseases, the clinical presentation can vary from asymptomatic to severe pneumonia. Furthermore, both COVID-19 and Influenza are transmitted by contact, droplets, and fomites. Therefore, similar hand hygiene techniques and respiratory etiquettes will be beneficial in preventing the spread. Another factor that influences the rate of spread of any infection is the Basic Reproduction Number (R_0). The influenza virus has an R_0 of ~1.3 whereas the SARS-CoV-2 virus has an R_0 of ~2.3. Therefore, each COVID-19 patient can spread 1.8-fold more new contacts compared to influenza patients

Investigations

Nucleic Acid Testing

Early part of January 2020, the China shared the genetic sequence of the SARS-CoV-2. This enabled countries to develop primers against the SARS-CoV-2 genome and utilize reverse transcriptase polymerase chain reaction (RT-PCR) assays to make a diagnosis of COVID-19.Therefore, RT-PCR has become the gold standard for the diagnosis of COVID-19, but it is only 66-80% sensitive. Essentially, this means that 20-34% of patients with COVID-19 out of

100 would test negative despite being infected. Upper respiratory samples are customarily recommended, though lower respiratory samples are recommended for patients exhibiting productive cough. Upper respiratory tract samples include nasopharyngeal swabs, oropharyngeal swabs, nasopharyngeal washes, and nasal aspirates. Lower respiratory tract samples include sputum, BAL fluid, and tracheal aspirates. Both BAL and tracheal aspirates can be high risk for aerosol generation. The detectable viral load depends on the days after illness onset. In

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the first 14 days after onset, SARS-CoV-2 could most reliably be detected in sputum followed by nasal swabs, whereas throat swabs were unreliable eight days after symptom onset. This variance in the sensitivity can be attributed to the patients being tested early in the disease course wherein the viral load is beneath detection level or due to lack of automation in sample preparation for RT-PCR. Furthermore, a single negative RT-PCR does not rule out COVID-19, hence a repeat RT-PCR must be performed. The concern rises regarding the timeframe of the repeat RT-PCR, the ideal window lies between 24 to 72 hours of the negative test(7).

Computed Tomography

The imaging features of COVID-19 were varied and depended on the stage of infection after the onset of symptoms. According to the study, normal CT findings (56%) in the early stages of the disease (0–2 days) with a maximum lung involvement peaking at around 10 days after the onset of symptoms(8). The most common hallmark features of COVID-19 include bilateral and peripheral ground-glass opacities and consolidations of the lungs. Based on these imaging features, several retrospective studies have shown that CT scans have a higher sensitivity (86–98%) and improved false negative rates compared to RT-PCR. The main limitation of using CT for COVID-19 is that the specificity is low (25%) because the imaging features overlap with other viral pneumonia (9).

Protein Testing

Viral protein antigens and antibodies that are created in response to a SARS-CoV-2 infection can be used for diagnosing COVID-19. Changes in viral load over the course of the infection may make viral proteins difficult to detect(10). Antibodies generated in response to viral proteins may provide a larger window of time for indirectly detecting SARS-CoV-2. Antibody tests can be particularly useful for surveillance of COVID-19. One potential challenge with developing accurate serological tests includes potential cross-reactivity of SARS-CoV-2 antibodies with antibodies against other coronaviruses(11).

Treatment

The person-to-person transmission of COVID-19 infection led to the isolation of patients that were administered a variety of treatments. At present, there are no specific antiviral drugs or vaccine against COVID-19 infection for potential therapy of humans. The only option available is using broad-spectrum antiviral drugs like Nucleoside analogues and also HIV-protease inhibitors that could attenuate virus infection until the specific antiviral becomes available . The treatments that have so far been attempted showed that 75 patients were administrated existing antiviral drugs. The course of treatment included twice a day oral administration of 75 mg oseltamivir, 500 mg lopinavir, 500 mg ritonavir and the intravenous administration of 0·25 g ganciclovir for 3–14 days . Another report showed that the broad-spectrum antiviral remdesivir and chloroquine are highly effective in the control of 2019-nCoV infection in vitro. These antiviral compounds have been used in human patients with a safety track record. Thus, these therapeutic agents can be considered to treat COVID-19 infection(12).

Prevention

It is regret to say that since at this time there are no approved treatments for this infection, prevention is vital. Quarantine of confirmed or suspected cases with mild illness at home is recommended. The ventilation at home should be good with sunlight to allow for destruction of virus. Patients should be asked to wear a simple surgical mask and practice cough hygiene. Caregivers should be asked to wear a surgical mask when in the same room as patient and use hand hygiene every 15–20 min.

It is vital to protect healthcare workers to ensure continuity of care and to prevent transmission of infection to other patients. Patients should be placed in separate rooms or cohorted together. Negative pressure rooms are not generally desired. The rooms and surfaces and equipment should undergo regular decontamination preferably with sodium hypochlorite. Healthcare workers should be provided with fit tested N95 respirators and protective suits and goggles. Airborne transmission precautions should be taken during aerosol generating procedures such as intubation, suction and tracheostomies. All contacts induding healthcare workers should be monitored for development of symptoms of COVID-19. Patients can be discharged from isolation once they are afebrile for at least 3 days and have two consecutive negative molecular tests at one day sampling interval.

At the community level, people should be asked to avoid crowded areas and postpone non-essential travel to places with ongoing transmission. They should be asked to practice cough hygiene by coughing in sleeve/ tissue rather than hands and practice hand hygiene frequently every 15–20 min. Patients with respiratory symptoms should be asked to use surgical masks(13).

Conclusions

Despite some diversity in initial symptoms, most COVID-19 patients have fever and respiratory symptoms. For now, travel history to epidemic areas is important to the diagnosis and should be obtained on all patients with flu-like syndromes. Due to the lack of available and validated therapeutics, most of the countermeasures rely on the usage of public health containment and quarantine approaches.

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CLINICAL UPDATE

Management of Children with COVID-19

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Abstract :

Coronavirus disease 2019 (COVID-19) is a severe transmissible disease in the world. It is declared as a pandemic since March 2020. Children account for a small proportion of cases as compared to adults. The virus primarily spreads among children during close contact, often via small droplets produced by coughing, sneezing, or talking. Children are generally asymptomatic or have mild symptoms. Common symptoms are fever, cough and shortness of breath. Management depends on identification, isolation and treatment of children appropriately according to the severity using standard protocol issued by the Ministry of Health, Sri Lanka. Prevention is mainly by following contact precautionary measures and social distancing.

Keywords

Coronavirus, Contagious disease, Acute respiratory distress syndrome.

Introduction

COVID-19 is a contagious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease was first reported in December 2019 in Wuhan, the capital of China's Hubei province. In early February 2020, the World Health Organization (WHO) designated the disease as COVID-19 and declared as a pandemic on 11th March 2020(1-4).

The incidence as of 25th April 2020 had been more than 2.8 million cases (5). Children account for 1-5% of confirmed COVID 19 cases and the mortality rate is very low in children. There are three reasons proposed for less number of paediatric cases and they include fewer opportunities for exposure (school vacation, infants at home), relatively immature immune system to cause inflammatory response against virus and relatively less developed number, maturity and function of Angiotensin-Converting Enzyme 2 (ACE2) receptors in which virus gets attached. There is no significant gender difference in children. Further, children with chronic lung diseases and other co-morbidities are potentially at high risk for severe disease (6).

The virus primarily spreads between people during close contact, often via small droplets produced by coughing, sneezing, or talking. The incubation period is usually up to 14days. Common clinical features are fever, cough and shortness of breath. Other rare symptoms may be fatigue, muscle pain, diarrhoea, sore throat, loss of smell, and abdominal pain. Overall, children tend to be more asymptomatic and fever is present in less than 50% (7). Though the majority of cases develop mild symptoms, a number of them progress to viral pneumonia and multi-organ failure (8, 9).

The standard method of diagnosis is by real-time reverse transcription polymerase chain reaction (rRT-PCR) from a nasopharyngeal swab (6).

This management protocol is prepared based on guidance on management of COVID 19 from College of Paediatricians, Sri Lanka, Royal College of Paediatrician, Australia and WHO protocol.

Assessment

It is very important that all children are triaged prior to attending paediatric outpatient and emergency departments to identify those who are at high risk for COVID-19 by intense and direct questioning from parents preferably in a separate room with negative pressure.

History and Examination

The full clinical spectrum of disease remains unclear – case definitions are fluctuating frequently. Typical clinical features include fever, cough, sore throat, increased work of breathing, tachypnea and cyanosis.

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Clinical classification of severity

1. **Asymptomatic infection:** Children who show a test positive for COVID-19 without manifestations of clinical symptoms or abnormal chest imaging findings. Diagnostic testing for COVID-19 is not done for asymptomatic children in Sri Lanka at the moment.
2. **Acute upper respiratory tract infection** Children with fever, cough, pharyngeal pain, nasal congestion, fatigue, headache, myalgia etc., and without signs of pneumonia (clinically or radio logically) or sepsis. On current evidence, fever is not a mandatory criterion.
3. **Mild pneumonia:** Children with or without fever, who exhibit respiratory symptoms such as cough, with chest imaging abnormalities indicating pneumonia but not fulfilling the criteria of severe pneumonia.
4. **Severe pneumonia:** (one or more of the following criteria is/ are present with features of pneumonia) • Tachypnoea • Oxygen saturation less than 92% • Increased work of breathing (recessions, nasal flaring, use of accessory muscles etc.) cyanosis or intermittent apnea (especially in neonates and infants) • Disturbance of consciousness, somnolence, coma, or convulsions • Food refusal or feeding difficulty, with signs of dehydration
5. **Critical cases:** Those who meet any of the following criteria • Respiratory failure requiring mechanical ventilation • Septic shock • Acute cardiac injury or cardiac arrhythmias • Multi-organ dysfunction

Investigations

- Testing for coronavirus should be limited to those who satisfy the standard case definition including those with severe disease (Based on the guidelines issued by the WHO and the Sri Lankan Ministry of Health).
- For children with bronchiolitis, croup and pneumonia who do not meet the case definition, testing should only be done for those with worsening disease and who are likely to require escalation of respiratory support.
- PCR of throat and nasopharyngeal swab using same swab - tonsillar bed first, then nasopharynx (insert along the floor of the nasal cavity parallel to the palate about 1-2cm in until resistance is encountered, and rotate gently for 10-15 seconds; then withdraw and repeat the process in the other nostril).
- For patients who fit the testing criteria and who require admission, two negative nasopharyngeal swabs (plus a lower respiratory tract specimen such as sputum if possible) are recommended to exclude COVID-19 infection. Further testing can also be considered if a patient deteriorates and clinical suspicion of COVID-19 remains high.
- Children admitted to ICU should have a lower respiratory tract specimen collected.
- Chest x-ray is not routinely recommended and most of the time, it has been normal (10).
- Baseline investigations in symptomatic children include FBC, CRP, renal function and liver function tests.
- CT has been used for diagnosis in adults; this is not essential in children.

Treatment

All confirmed cases must be notified to the relevant Health Department.

Isolation

All confirmed COVID-positive cases should be isolated irrespective of their severity and need admission. Home based management is not recommended in any situation in children. By stander can be allowed to stay with the child with standard precautions.

General supportive care

Paracetomol is the preferred anti-pyretic agent in addition to adequate hydration and nutrition.

Mild to moderate disease

(should be managed as per clinical syndrome)

- Droplet and contact precautions (gloves, gown, surgical mask, eye wear) should be observed for all health care workers, family members and visitors
- High-flow nasal oxygen therapy should be avoided if possible due to risk of aerosolisation – discuss with senior clinician and consider consultation with ICU
- Nebulized adrenaline should be reserved for severe croup or stridor

Severe disease

- Respiratory support as required
- Airborne precautions (full PPE including N95 mask) must be maintained if child requires high-flow oxygen, non-invasive ventilation or nebulized therapy. Do not withhold these therapies if they are indicated
- Management must occur in the highest level of isolation unit
- A number of antiviral and other medications have been suggested as possible treatments for severe COVID-19 - Consult Infectious Diseases team.

Special situation and messages

- Home-ventilated patients on CPAP or BIPAP and those with tracheostomy (with or without ventilation) should be tested for coronavirus if they are suspected to have viral respiratory tract infections, and managed with airborne precautions until confirmed to be negative(10).
- There is currently no evidence that ibuprofen can make COVID-19 worse. However, it is best avoided in the community where prevalence of endemic dengue is high. There is insufficient evidence for ceasing any existing medication, including NSAIDs, immunosuppressants, angiotensin converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARBs) (11,12).

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- Airborne precautions should be maintained for children with respiratory illness requiring nitrous oxide for procedures; staff involved should use PPE(10)
- Hydroxylchloroquine is not recommended until their efficacy is proven (13). Similarly the routine use of systemic glucocorticoids is not recommended unless they present with an exacerbation of asthma (6)
- Intravenous immunoglobulin and intravenous antibiotics are not routinely used, but may be used in critically ill patients on individual basis (6).

Regarding breast feeding babies and newborn

There is no current evidence that SARS CoV-2 can be transmitted through breast milk. Mothers with confirmed COVID 19 can breast feed with meticulous handling and respiratory hygiene. Mothers should be encouraged to remain with the baby (14).

However, if a mother is positive, the baby can get the disease post-partum due to direct close contact with the mother. There have been similar cases reported in China (6). There are three options available for management of a newborn baby if the mother is a confirmed COVID-19 patient or till ruling out the disease if the mother is a suspected case. A senior specialist can take the decision (6).

1. Keep the baby with mother if the mother is clinically well and continue breast feeding while the mother is taking maximum precautions to prevent transmission of the infection to the baby.
2. Temporarily separating the baby from the mother just after birth and providing expressed breast milk and mother should practice standard precautions for COVID-19
3. Temporarily separate the baby from the mother just after birth and provide formula feeds to prevent any form of contact with the mother.

Discharge criteria:

All of the following criteria should be fulfilled for discharge

1. Afebrile for at least 3 days.
2. Significant improvement in respiratory symptoms.
3. Progressive improvement of chest imaging findings.
4. Two consecutive negative RT-PCR tests of respiratory samples which have been done at least 24 hours apart.
    - The recovered children should be home quarantined for another 2-3 weeks since the date of discharge from the hospital..

Prevention

Prevention of community spread of COVID 19 is one of most effective interventions to reduce the overall burden of COVID 19. All encounters with children and their parents while providing care should be considered as opportunities for health professionals to provide education about hand hygiene, social distancing, rescheduling the travel plans, avoiding sick people and also to educate when and how parents can seek medical care if their child develops respiratory symptoms (15).

Conclusion

As COVID19 is a contagious disease all over the world, prevention is the most effective way to control the disease by health educating the public with regard to precautionary measures, hand hygiene and social distancing.

Conflict of interest

There is no conflict of interest in publishing this article.

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BRIEF ORGINAL ARTICLE

A Study on effectiveness of Albendazole in the treatment of cutaneous larva migrans in children at Teaching Hospital Batticaloa over the period of one year

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Abstract :

Ten children, who attended to paediatric clinic, were assessed for the effectiveness of oral albendazole which was prescribed according to weight and age. Majority of them responded within a week and only two children needed two weeks of treatment. There was no recurrence in any of them in the subsequent follow up. Effectiveness of albendazole in the treatment of CLM as a first line drug is promising.

Keywords

Cutaneous larva migrans, Creeping eruption, Albendazole, Ivermectin.

Introduction

Cutaneous larva migrans (CLM) is a common dermatosis caused by larva of animal nematode mainly Ancylostoma braziliense and Ancylostoma caninum. It occurs in tropical and subtropical areas all over the world (1). Once the child contact with the infected soil, the larva penetrates the skin and starts to creep. Hence, it is also called 'creeping eruption'. The typical clinical manifestations of skin include itchy, linear and erythematous tract. The diagnosis of disease is mainly clinical (2). There are various treatment including topical treatment of thiabendazole which has limited value and systemic treatment with albendazole or ivermectin has been effective to achieve appropriate cure (3).

Aim: To assess the effectiveness of albendazole in the treatment of cutaneous larva migrans.

Methods & Materials

We conducted a retrospective descriptive study; clinical histories of 10 patients, who attended to paediatric clinic with the diagnosis of cutaneous larva migrans to Teaching Hospital Batticaloa over the period of a year from January to December 2018 were reviewed. The study population had been selected aged between 6months to 14 years and follow-up review made in one, two and four weeks after the treatment of oral albendazole.

Results

Participants (n=10) aged between 2 years to 6years with the median age of 3 years. There were 8 boys and 2 girls. Nine children were previously healthy and one child had global development delay and was on antiepileptic treatment. Socioeconomic status of eight patients was generally poor with a monthly income < Rs.30, 000/-. Educational level of 6 parents was above advanced level, of those two were working in government sector. Rest of the parents studied up to ordinary level or below. All children had a history of playing in the dirty soil except the child with global development delay who rolled over on the cemented floor. All of them had pets either dog or cat in their home. Clinical history revealed that average time to present to paediatric clinic had been 3weeks. All of them had treatment from a General practitioner before seeking specialized advice. The location of lesions had been found on back of the chest (1patient), perianal area and buttock (3patients), dorsum of foot (3patients), inter toe area (1patient) , forearm (1patient), and leg (1 patient). All of them had linear erythematous itchy lesions which ranged from 4cm to 10cm in length. Some of the lesions had secondary infections. Regarding the treatment, all had been treated with albendazole according to their weight and age for one week with antihistamine. Only three patients needed systemic cloxacillin to treat secondary bacterial infection. Review at one week showed that most had healed hyperpigmented scars and itchiness. Two of them had incomplete response to one week treatment, for which further one week treatment was prescribed.

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All of them reviewed in two weeks were found to have complete recovery and review done at one month showed no recurrence.

Discussion

Cutaneous larva migrans (CLM) is a cutaneous dermatitis caused by the invasion and migration of larva of parasites in the skin (1, 4). Most of the larvae are from animal nematodes, and rarely from insects (4). CLM is also named as creeping eruption, sand worm, plumbers itch, and duck hunters itch and epidermatitis linearis migrans (5). It is common in warmer tropical and sub-tropical countries. There are two environmental factors which determine the endemic nature of disease including poor sanitation and appropriate environmental condition. The temperature between 23 to 30 °C, loose humus soil in a shady area and proper aeration favor hatching of larva (6, 7).

The clinical features differ from non-specific dermatitis to typical creeping eruption. The larva after penetration can lie silent for weeks or starts creeping sooner. The lesion starts as itchy erythematous papules at the site of entry and then forms a linear lesion like a tract while moving. Usually it is single larva tract, however multiple larvae might be active and form disorganized loops and tortuous tracks. The eruption is most often located over the feet followed by buttock, anogenital region and upper extremities. Perhaps, severe infection might cause hundreds of tracts (4). The lesions are intensely itchy, sometimes might produce burning sensation. Both itching and burning are severe enough to produce sleep disturbances and insomnia. As lesions are itchy, scratching might cause secondary changes of dermatitis and bacterial infection. Sometimes, CLM caused by Strongyloides might end up with Loeffler's syndrome as a result of migrating larvae reaching the lungs (8). Migrating larvae in the cornea may produce inflammation leading to corneal opacity and Ancylostoma caninum can be associated with myositis as result of the larva invading deep into the muscles (9,10).

The features of CLM are typical and perhaps it might be missed. There are so many differential diagnosis from other parasitoses e.g., subcutaneous nodules or granulomas due to other species, and different pictures of myiasis, and also pathologies such as allergic contact dermatitis, urticaria factitia, other types of dermatitiand pyodermas, scabies, urticaria, photodermatitis, erythema chronicum migrans and stings of Portuguese man- of-war or jellyfish (11,12).

Investigations rarely have a role in diagnosis such as white blood count, C-reactive protein, stool examination and biopsy which is not recommended. In recent times epiluminescent microscopy has been found to be a non-invasive method for detecting a larva to confirm the diagnosis of CLM. Some proposed exploration for specific IgG with enzyme-linked immunosorbent assay (ELISA) methods (12-14).

Although there are so many treatment modalities available, all are not equally effective. It includes, physical modalities (surgery e.g., in creeping eruption due to Gnathostoma sphinigerum), cryotherapy, topical drugs and systemic therapy (12,13). Topical agents such as 15% thiabendazole, 2% gamrriexane cream, 25% piperazine citrate and metriphonate have been used in the treatment of CLM. Though only topical thiabendazole has been found to effective in killing the larvae and alleviating symptoms, it needs long term and repeated application (4,16). Oral thiabendazole has been described to have a very high efficacy (25-50 mg per kg) (13). It is not recommended as it has high incidence of side effects such as nausea, anorexia, headache and gastrointestinal disturbances (17).

Albendazole has been first used to treat CLM in 1982 and subsequently many studies showed its effectiveness and is now considered to be the drug of choice for CLM. The recommended dose is 400-800mg/day for a period that may vary from 1-7 days (18, 19). This anti-helminthic is effective against eggs, larvae and adult stage of numerous helminthes. The mechanism of action is not known. It may act by reducing or blocking the uptake of glucose, thus in turn decrease or cessation in production of adenosine triphosphate (ATP).The important advantages of albendazole is that it is more effective, has less side effects, well tolerated and relieves pruritus within 3 to 5 days. Another possible alternative drug is a single dose of ivermectin (150-200mg/kg / day), which eradicates the parasite with minimum or no side effects (14, 20).

Eradication of larvae is crucial to prevent CLM. There are simple measures which prevent CLM include avoiding contact of exposed skin with contaminated soil, Wearing shoes and using a beach towel when lying on sand. Periodic deworming for domestic pets and sand boxes and other similar facilities where children frequently play should be protected from dogs and cats (4). Limitation of study had been that sample size was small and short duration.

Conclusion

The diagnosis of cutaneous larva migrans is usually clinical because of their creeping nature and appearance of lesions which might be supported by the exposure to a tropical endemic area. In this study we found oral albendazole alone was mostly effective in the treatment of cutaneous larva migrans. It would be better to redo the study with more cases.

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Conflict of interest

The Author declares that there is no conflict of interest in publishing this article.

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CASE REPORT

Haemophagocytic Lympho Histiocytosis in a Patient with Undiagnosed Systemic Lupus Erythematosis Complicated with Acinetobacter Infection of the Lung - A Case Report

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Introduction

Hemophagocytic Lymphohistiocytosis (HLH) is an aggressive and life-threatening syndrome of excessive immune activation. It most frequently affects children and rarely adults1. HLH commonly manifests as multiple organ failure without apparent physiological stress2. HLH is classified into primary (familial) and secondary etiologies (infection, autoimmune conditions, drugs and malignancy)3. Systemic lupus erythematosus (SLE) is an autoimmune condition that can predispose to HLH.5 Hemophagocytic lymphohistiocytosis (HLH) in the background of systemic lupus erythematosus (SLE) is rare. Inability to discriminate between these two entities may be fatal for the patient.4While the true incidence of HLH is unknown, the mortality if left untreated is high. However, with rapid identification of HLH and initiation of treatment, the survival rate approaches 50%3. Infections caused by Acenitobactor are increasingly being reported as the cause of outbreaks and nosocomial infections such as blood-stream infections ventilators-associated pneumonia and urinary tract infections or wound infections. Acinetobacter isolates demonstrate increasing resistance to commonly prescribed antimicrobials7

Keywords

Haemophagocytic lympho histiocytosis, systemic lupus erythematosis, Acinetobacter infection.

Case history

A 46 years old lady, who was investigated for anaemia one month before ,deafaulted follow up,got admitted with fever with cough for one week. She looked ill and pale. Her blood pressure was low 80/50 mmHg. Coarse crepitations of the lungs were heard and there was enlargement of liver and spleen.

Her investigations revealed white cell count of 1,490/mm3 with neutrophil count of 700/mm3. haemoglobin was 6g/dl and platelet was 16,000/mm3. C Reactive protein was 63g/dl. Initial diagnosis was neutropenic sepsis possibly due to lung infection. All the cultures were sent and she was started on broad spectrum antibiotics. She was resuscitated with intra venous fluids and strated on ionotrope (Noradrenaline) to maintain her blood pressure.

Her renal functions, liver functions and serum electrolytes were normal. Blood picture revealed pancytopenia with rouleux formation. Her blood pressure improved and ionotrope weaned off. Lungs signs reduced with dropping inflammatory markers, but she continued to have fever with further dropping full blood count indices. So she underwent bone marrow aspiration and trephine biopsy which showed haemophagocytosis and increased number of histiocytes. At the same time her Ferritin was high 1900ng/ml and Triglyceride was also high 3.3 mmol/l. She was diagnosed to have Haemophagocytic Lympho Histiocytosis (HLH). She was immediately started on intravenous Methyl Prednisolone 1g daily for 5 days followed by oral Prednisolone 1mk/kg/day. At the same time, she was investigated for the underlying cause for HLH. All the cultures were negative and all the tumor markers were negative. She underwent contrast CT of the chest, abdomen and pelvis which excluded any underlying malignancy. But she complained of a photo sensitivity rash in the face, non scarring alopecia and on and off oral ulcers for the last six months for which she didn't seek any medical advice and she ignored completely. So Systemic Lupus Erythematosis (SLE) was suspected at this point and investigations revealed positive antibody for double stranded DNA (Anti-ds DNA) 884IU/ml (positive > 180 IU/ml) and Anti Nuclear Antibody (ANA) was positive 207 which confirmed the diagnosis of SLE.

With treatment she improved clinically and fever settled, but she continued to have productive cough and her repeat sputum culture was positive for Acinetobactor species which was multi drug resistance and she was started on Cefoperazone and Tazobactam.

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Discussion

We report a case of female patient whose SLE manifested as HLH. Her clinical and laboratory findings indicated pancytopenia, positive ANA and anti-ds DNA antibody, meeting seven out of 17 (five clinical and two immunological) of the Systemic Lupus International Collaborating Clinics (SLICC) criteria for the diagnosis of SLE. She had fever, pancytopenia, splenomegaly, bone marrow hemophagocytosis, hyper triglyceridaemia and hyperferritinemia, fulfilling six out of the eight diagnostic criteria of HLH, described in the HLH 2004 trial. Hence, the patient was diagnosed with SLE manifesting as HLH.

HLH is a rare but devastating clinical entity and has been associated with several rheumatologic disorders including adult Still's disease, sarcoidosis, systemic sclerosis and Sjogren's syndrome3.Systemic lupus erythematosus (SLE) is a systemic autoimmune disorder involving multiple visceral organs. In the adult population, HLH may be associated with SLE. Prevalence of HLH secondary to SLE is estimated between 0.9% and 4.6%1The diagnosis of HLH secondary to SLE is complicated, because it has some features in common, but HLH is characterized by organomegaly, hyperferritinemia, hypofibrinogenemia, hypertriglyceridemia and cytopenia, a decrease in the erythrocyte sedimentation rate, unlike SLE. 2

HLH can be primary resulting from a genetic defect leading to decreased cytotoxic activity of Natural Killer (NK) cells and cytotoxic T cells. Secondary HLH results from triggering agents like infections or malignancies but can also be induced by autoimmune conditions, in which case it is called macrophage activation syndrome (MAS). Inability to clear the antigens secondary to these conditions lead to hyperactivation of the immune system, progressing to cytokine storm, and results in organ dysfunction. HLH possesses diagnostic challenges as it has overlapping features with sepsis and multiple organ dysfunction syndrome (MODS)5 Rarely, patients on immunosuppressive therapy for autoimmune conditions can also develop HLH. Thiopurine treatment for inflammatory bowel disease is associated with an increased risk for developing viral infection driven HLH, and this risk is slightly higher in patients with Crohn's disease versus ulcerative colitis.6 The diagnostic criteria to suspect HLH are characterized by finding five of the following eight findings,

1. Fever ≥38.5°C
2. Splenomegaly
3. Peripheral blood cytopenias with at least two of the following:
   - Hemoglobin <9 g/dL
   - Platelets <100,000/μL
   - Absolute neutrophil count <1000/μL
4. Either fasting hypertriglyceridemia (>265 mg/dL) or hypofibrinogenemia (<150 mg/dL)
5. Hemophagocytic lymphocytes in bone marrow, spleen, lymph node, or liver
6. Low or absent NK cell activity
7. Ferritin >500 ng/mL
8. Elevated soluble CD25 (alpha-chain of the IL-2 receptor) >2400 U/mL6

Our patient while on immunosuppressive treatment, developed Acenobacter infection of the lungs. Multidrug resistant Acinetobacter has gradually increased in importance as a nosocomial pathogen with considerable health care expenditure and mortality. Proper sterilization at the time of invasive procedure should be maintained by all hospitals.

Conclusion

Adult HLH usually presents secondary to infection but is rarely due to a rheumatologic condition such as SLE. Physicians should consider testing for SLE in patients diagnosed with HLH. This diagnosis should always be kept in mind when those with rheumatologic conditions acutely decompensate and present with multiple hematologic abnormalities.

Competing interests

The author declares that no competing interests.

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CASE REPORT

A rare presentation of Granulomatosis With Polyangitis ; Multiple lung nodules with cavitations, microscopic haematuria and Pyoderma Gangrenosum

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Abstract :

Granulomatosis with polyangitis (GPA), formerly known as Wegener's granulomatosis, is one of the antineutrophil cytoplasmic antibody (ANCA) vasculitis that primarily affects the small vessels.

The clinical presentation of GPA can be so diverse, resulting so many differential diagnosis, such as infectious diseases to other vasculitis as well as malignancies.

We describe an unusual case of GPA that was initially presented as pyoderma gangrenosum and multiple pulmonary nodules with cavitation and treated as rheumatoid arthritis without any clinical outcome. Ultimately the diagnosis was made as GPA with C-ANCA positivity and other clinical evidences. Our case highlights the importance of rare presentations and the need of high clinical suspicious towards vasculitis like GPA as early diagnosis will provide better outcome.

Keywords

Granulomatosis with polyangiitis, C-ANCA, pyoderma gangrenosum, pulmonary nodules.

Introduction

Granulomatosis with polyangiitis (GPA, formerly known as Wegener's Granulomatosis) is a rare multi system autoimmune small vessel vasculitis which is highly associated with anti-neutrophil cytoplasmic antibodies (ANCA) and has clinical manifestations which include systemic necrotising vasculitis, necrotising granulomatous inflammation, and necrotising glomerulonephritis.4 It can affect any organ, but mainly affects sinuses, lungs and kidneys. We describe a lady with rare presentations of Wegener's Granulomatosis which was a diagnostic dilemma.

Case report

A 29 year old lady, mother of three children from Maha oya with the history of multiple skin ulcers for one year duration admitted this time with the complain of difficulty in breathing, productive cough with scanty yellowish sputum and Right sided pleuritic chest pain associated with mild on and off fever for one week duration. She had loss of appetite but no loss of weight She also had oral ulcers, alopecia and arthralgia involving bilateral knee joint and bilateral proximal interphalangeal joint pain and swelling. She denied any urinary, bowel, neurological symptoms. She had a history of three pint blood transfusion in the past. Her pregnancies were uncomplicated there were no history of miscarriages or DVT in past. She is a house wife, non smoker non alcoholic.

Physical examination on admission to our hospital showed fever as high as 38.8° C (101.9° F), pulse of 80 beats per minute, and blood pressure of 120/70 mm Hg. She was dyspnoic, pale, not icteric found to have multiple well demarcated ulcers at different stages of healing all over her body involving both lower limb and trunk sparing the face. Respiratory system revealed Right side diminished breath sound with evidence of right sided pleural effusion. All other system examinations were normal.

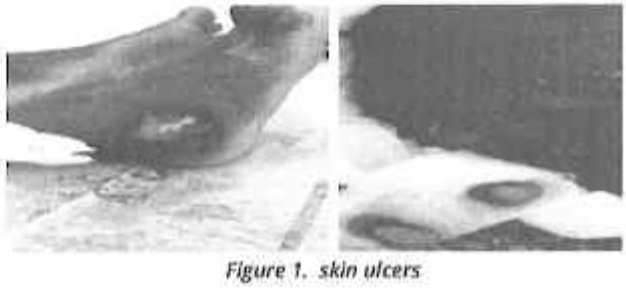

Figure 1. skin ulcers

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Laboratory tests showed neutrophilic leukocytosis , normochromic normocytic anemia with elevated ESR 120 and CRP 232 suggesting acute infection on a chronic inflammatory process. Chest radiography showed a large infiltrate with a central cavitation abscess formation in the right lower pulmonary field with multiple bilateral nodular lesions.

Figure 2. Chest Xray

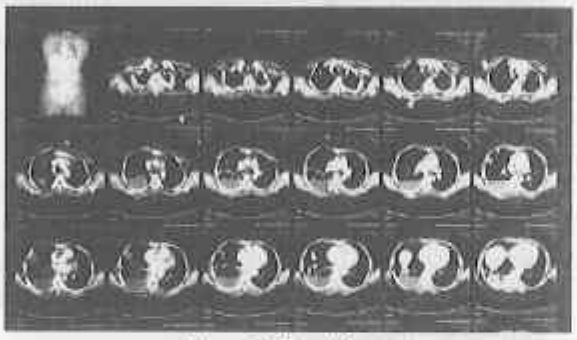

Figure 2. Chest Xray

Chest wall scan showed lesion is cystic in nature, no solid masses that can be biopsied. Then computed tomography (CECT) of the thorax showed revealed multiple nodules scattered throughout both lungs, with the largest nodule showing central cavitation, no foci of malignancy and no cannon balls. Immunological tests were positive for rheumatoid factor, and anti-neutrophil cytoplasmic antibodies (c-ANCA, cytoplasmic pattern); and negative for antinuclear antibodies, anti-double-stranded DNA , anti-glomerular basement membrane antibodies, , anti CCPand anti sm antibody. Direct Coombs test results were negative

Skin biopsy revealed; The epidermis shows fibrosis & moderate amount of inflammatory infiltrates no features vasculitis and granuloma was absent. Favouring pyoderma gangrenosum negative for vasculitis or granuloma.

A urine analysis revealed microscopic hematuria and Albuminuria with red cells 85 – 90, pus cells 5 – 8 , U.PCR - 103mg/mmol , Urine dysmorphic RBC 5% . Renal biopsy showed; focal segmental glomerular nephritis. Renal & liver functions were normal.

Sputum culture; was positive with methicillin resistrnt staph aureus (MRSA) which is sensitive to cotrimaxzole, teicoplanin, fusidic acid and vancomycin. Urine & blood cultures and Melioidisis antibody were negative.

Based on clinical, laboratory and histological data, a diagnosis of Wegener's granulomatosis was made. Acute Lung infection with MRSA positivity was initially treated with oxygen via face mask , i.v vancomycin and i.v flagyl with frequent nebulization & chest physiotherapy after her acute infection part settled, treatment was directed at pulmonary manifestations, with administration of prednisone (1 mg/kg/day) and iv cyclophospamide pulse therapy 15 mg/kg q2 weeks x 3 doses as induction). She was managed by multi disciplinary team including respiratory physician, dermatologist, nephrologist, radiologist, histopathologist, general physicians and physiotherapists. She responded very well to the treatment her lung signs were improved, and skin lesions were healed without any new lesions. She was given full course of cyclophosphamide treatment (15mg/kg q3 weeks for 3 doses) and maintenance with low dose prednisolone and azathioprine and followed up in our clinic. A CT scan of the chest was performed 6 months after the initiation of treatment, and showed complete remission of the cavitatory lesion, with a few small nodules.

Discussion

Wegener's granulomatosis is a rare disorder, though is one of the more frequently-seen small vessel vasculitides. The classical clinical triad is disease of upper respiratory tract (sinuses, ears, nasopharynx and oropharynx), lower respiratory tract (trachea, bronchi and lung parenchyma) and kidneys.7 There is involvement of either the upper or lower respiratory tract or both in 90% of cases and renal involvement in 80%.7 Other affected systems include skin, musculoskeletal, neurological and gastrointestinal. Approximately 25% of patients will have limited Wegener's granulomatosis without renal involvement and 9% may pulmonary involvement alone.8 Classic microscopic features of GPA include inflammation of blood vessels associated with poorly formed granulomas, necrosis, and many giant cells. . GPA has been reported to be a type of angiitis associated with ANCA, in particular cytoplasm ANCA (c-ANCA).10 It was reported that the serum c-ANCA levels during the active phase of GPA are elevated in 90% of patients11

Our patient initially investigated for multiple skin ulcers for one year duration preceded by the symptoms of acute respiratory infection initially had a suspicion towards lung malignancy due to the cannon ball appearance of multiple nodules on Cxray. But after the chest wall scan and contrast CT chest , we excluded the malignancy. But again the diagnosis was difficult as because she had positive rheumatoid factor , multiple joint pain and swelling and anemia we started treating her as rheumatoid arthritis with Methotrxate. Skin biopsy report also came as Pyoderma gangrenosum without any evidence of vasculitis which again supported our diagnosis. But patient was clinically not improved. Additionally she found to have microscopic haematuria and albuminuria which ended up in renal biopsy. It showed focal segmental glomerular sclerosis.

A cavitatory lung lesion is a non-specific finding, cavitations are susceptible to infection, leading to an increase in air-fluid

levels, which is easily misdiagnosed as neoplasm, infection, pulmonary infarct, lung abscesses, septic embolism, vasculitis, congenital anomaly and rheumatoid nodule.6 Considering the wide spectrum of diseases that can cause cavitatory nodules, evaluating the clinical scenario in which they appear is crucial for making a proper differential diagnosis.

In our case, in addition to the cavitatory pulmonary nodule, the patient had a pyoderma gangrenosum and findings compatible with acute glomerulonephritis, raising the suspicion of of Wegener's granulomatosis. The diagnosis was confirmed with the c-ANCA immunological test and by renal biopsy.

GPA is frequently misdiagnosed as tumor-like lesions, including metastatic tumors and bronchial lung cancer. GPA presenting with multiple solid nodules has been misdiagnosed as metastatic tumor.12 Hence, CT scans combined with clinical and laboratory analysis may reduce the rate of misdiagnosis.

When we consider the pyoderma and GPA, as in our case, skin elements are the first manifestations. Whether these elements are Wegener manifestation or we have coexistence of PG with GPA, it remains a still uncertain question to answer.4 There is no histopathologic pathognomic elements for both. Skin involvement in GPA with PG-like lesions have been rarely reported.4 However, the incidence of GPA presenting as PG-like lesions is infrequent, and has been reported in only one of 166 cases.9 In front of this type of widespread ulcerations and resistant to treatment we should be aware that one of the reasons may be a disease of autoimmune etiology such as GPA.

The mainstay of current treatment is immunosuppression with glucocorticoids and cytotoxic agents such as methotrexate, azathioprine and cyclophosphamide.2 Treatment mainly depends on disease severity considering induction of remission and maintenance treatment.2 Our patient responded well to oral steroid and pulsed cyclophoshphomide with resolution of symptoms and chest radiograph changes.

Conclusion

Wegener's granulomatosis is a rare disorder, making a prompt diagnosis is important, as without treatment, the mortality is high. Our case highlights the importance of rare presentations like cavitatory pulmonary nodules and pyoderma like skin ulcers which are having a wide range of possible clinical diagnosis, hence autoimmune diseases like GPA should be considered here with appropriate clinical backgrounds, especially when the lesions are associated with glomerulonephritis, to prevent a delay in diagnosis and the development of further complications.

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CASE REPORT

Case Report of multiple intra-abdominal abscess with acute kidney injury following teeth extraction in 3rd Trimester of pregnancy

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Abstract :

39 years old postpartum mother presented with fever, urosepsis and multiple intra abdominal abscesses. Her blood culture was positive for acinetobacter infection and pus culture was positive for actinomyces. Acinetobacter is a gram negative coccobacillus and an oxidase negative, strictly aerobic organism. [1]Actinomyces is anaerobic gram positive bacteria that are normally colonized in human oral cavity, digestive and genital tracts.[2]

Acinetobacter species can be found in the environmental sources like water, soil and food. They can survive in wide range of environmental changes such as moist area or dry surface and may cause health care associated infection.[3, 4] Acinetobacter baumannii is the sub species which commonly causes disease in humans. This is very rarely causing opportunistic infection in immune compromised patients such as, pregnant mothers, patients with DM, chronic obstructive pulmonary disease, chronic kidney disease, heavy smokers and alcohol abusers[5,6].This is very rare case of blood culture being positive with acinetobacter infection and at the same time pus culture from multiple intra abdominal abscesses being positive for actinomyces. Multiple intra abdominal abscesses were probably formed following teeth extraction in 3rd trimester.

Keywords:

Acinetobacter and multiple intra-abdominal abscesses.

Introduction

Acinetobacter is a gram negative bacteria and belongs to wider class of Gamma proteobacteria. [3]

Acinetobacter baumannii can be isolated in patients with hospital acquired pneumonia treated in ICU.[3, 9] It can infect the skin, soft tissue, post-surgical wounds and can cause urinary tract infection, bacteraemia and meningitis. [3,7] It also causes endocarditis, keratitis, peritonitis and prevertebral abscesses and infects the burn injuries causing complications and difficulties to eradicate the organism.[8]

Acinetobacter baumannii wound infection was found in US military personnel worked in Iraq & Afghanistan. This is a community acquired form spreading with soil contamination.[3]

Acinetobacter baumannii can colonize a healthy person without causing symptoms. Such people are called carriers. This may spread from person to person via contact. [9]

This is most frequently acquired through nosocomial manner from intravenous devices, urinary catheters, respiratory care equipments, contaminated parenteral solutions & colonization in skin, oral mucosa, GI tract and can increase rapidly after admission to hospital or ICU. [7]

Acinetobacter baumannii infection results in significant adverse effects in pregnancy and perinatal outcome. If blood culture is positive in perinatal period, there is high risk of spontaneous abortion, preterm labour with histological chorioamnionitis.[8]

Actinomyces lives on mucosal surface and gets into deeper structure via trauma or disrupted mucosal barriers. These bacteria from normal flora can cause bacteraemia and lead to infective endocarditis, deep muscle layer infections ,intra cranial abscesses ,multiple intra abdominal abscesses and prosthetic joint infection[10,11].Actinomyces species are generally sensitive to penicillin, sulfonamide and carbapenems.

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Case Presentation

A 39 year old mother with hypertension for 5 years duration was presented on post-partum day 45 with fever for 4 days duration. Fever was due to urosepsis and blood culture was positive with Acinetobacter infection.

Previously, in early part of 3rd trimester, she had developed severe toothache and tooth extraction had been done. In the 38th week of POA she had undergone vaginal delivery. On day 5 of post natal period, she had developed fever, chills, rigors, dysuria & urosepsis symptoms. Her serum creatinine was 12.2 mg/dl. She rapidly developed features of acute kidney injury like oliguria, generalized body swelling, abdominal wall oedema with fluid overload symptoms. She was managed in the Intensive Care Unit (ICU) and she underwent haemodialysis four times via central venous line.

After that, she was transferred to medical ward for continuation of medical management. Ultrasound scan of abdomen revealed an abscess in the right side psoas muscle. She was managed with IV merapenam, cefoperazone-sulbactam for 15 days. Patient clinically improved. Serum creatinine was reduced to 1.9 mg/dl and she was discharged as the patient insisted.

Now again on day 45, she came with same symptoms with increased severity. CECT abdomen showed multiple abscesses in the psoas muscle, peri renal area and rectalis muscle. This lead to urosepsis with acute kidney injury. UFR report had fieldfull of pus cells with albumin +++. Her both legs were swollen, Urine PCR showed nephrotic range proteinuria. Both lower limbs venous duplex scan was normal. There was no deep vein thrombosis. Her ANA, Anti mitochrondrial anti body, P-ANCA & C-ANCA were negative. Complement C4- C3 were within normal limit and helped to exclude connective tissue disorders. Melioidosis antibody & Mantoux test were negative. Renal biopsy showed resolving acute glomerular nephritis. Ultrasound guided psoas muscle abscess aspiration was done & pus culture was positive for actinomyces. She was managed with the IV cefoperazone-sulbactam for 45 days and supportive management was also given. Patient clinically improved along with other parameters. After 45 days of IV antibiotic, patient was discharged with full recovery.

Discussion

TThis patient developed severe toothache and tooth extraction was done in early part of the 3rd trimester.

Teeth extraction causes dysruption of mucosal barrier and causes some bacteria in the normal mucosal flora such as actinomyces to get into deeper structures. [10,11]

From deep structures bacteraemia can occur with formation of nidus at a different site and can cause chronic infection with abscess formation. Bacteremia after the dental procedure may cause long term sequeleae.[11]

During pregnancy, rising hormone levels cause gums to swell and bleed allowing a high chance for infection. [1,2]

In this patient, actinomyces bacteria originated from normal oral flora may well be the source of infection in psoas muscle, renal abscess and rectalis muscle abscess.[10]

Tooth extraction in pregnancy period leads to high risk of bacterial invasion of blood stream and may lead to multiple deep seated abscesses. [12,13].

She was treated for urosepsis and acute kidney injury on day 5 of postpartum period. In hospital management, IV canula, urinary catheter, CVP line, ICU management, haemodialysis were the main risk factors for acinetobacter infection in this mother following pregnancy who had already been affected by actinomyces infection.

This organism can be a multi drug resistant organism. Colonization of acinetobacter in skin, oral mucosa, GIT tract increases rapidly after admission to hospital or ICU. Because of immune compromisation in pregnancy, there was high risk of colonization in the muscosal surface and spread into blood stream. [1,9,11]

She was managed in the medical ward for 15 days with intravenous (IV) merapenam, IVcefoperazone-sulbactam. She improved clinically and was discharged as per her request. Again on 45th day of postpartum, she presented with same symptoms but with increased severity. This time also blood culture was positive for acinetobacter, and CECT abdomen showed multiple abscesses in psoas muscle, renal area and rectalis muscle.

Ultra Sound Scan (USS) guided aspiration of psoas abscess was done. Pus culture was positive for actinomyces. She was treated with IV antibiotic for 45 days this time and acinetobacter infection was fully eradicated from blood stream.

In previous hospital admission, as she was partially treated with IV antibiotics for 15 days, the infections relapsed. Actinomyces with acinetobacter super infection needs long term, high dose IV antibiotics nearly around 45 days to facilitate the drug penetrate into abscess and infected tissue.[2]

But antibiotic duration probably may be shortened by optimal surgical resection of infected tissue.

Preventive dental care before pregnancy is essential to avoid oral infections and their complications. It is best to avoid dental treatment during pregnancy and avoid exposing the developing baby to any risks, even if they are minimal. [3]Frequent follow up and proper antibiotic may be needed after the dental procedure. [4]

During the pregnancy period,patient must take preventive measures to avoid acinetobacter infection. Staff and patient must practice good hand hygiene. Simple handwashing with running water and soap also vastly decrease the transmission to others. [19]

Health care staff scrubbing their hands with antiseptic soap or hand sanitizer also leads to decrease in transmission of bacteria to others. Environmental cleaning, which involves the sterilizing surfaces and equipment with high grade cleaning agents such as bleach which destroy the outer coating (Capsule) bacteria will further reduce transmission of infection.[9] But surgical

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instruments need high pressure and heat for sterilization. Gamma radiation is more beneficial for sterilization.

This case report bring awareness of avoiding teeth extraction during pregnancy period, importance of practicing good hand hygiene and using sterilized instruments to prevent the health care burden following hospital acquired infection.

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CASE REPORT

Case report of left sided Infective endocarditis with multiple septic emboli involving the pulmonary system

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Abstract :

Infective endocarditis is the infection involving endocardium or valves of the heart. This leads to cardiac and non-cardiac morbidity. Infective endocarditis with septic embolism may cause many life threatening clinical complications. [1] Septic embolism to the brain, kidney, spleen, liver and pulmonary system constitute the vast majority of metastatic infections. [1] A 74 year old patient with a history of rheumatoid arthritis and Felty syndrome, who had undergone splenectomy 14 years ago, presented with left sided infective endocarditis and multiple septic emboli involving the kidney, pulmonary system and liver. We would like to highlight left sided infective endocarditis causing multiple septic emboli and emboli in pulmonary which is a rare occurance. Pulmonary septic emboli are usually caused by right sided endocarditis.

Keywords:
Infective endocarditis and Pulmonary septic emboli.

Introduction

Infective endocarditis is usually caused by bacterial infection but few other pathogens also may cause infective endocarditis. [2] According to the degree of severity and progression, this has been classified into acute and sub-acute form. Acute form is the acute onset and fulminant course. [2] Sub-acute form is the slowly developing type of infective endocarditis. Accurate and timely identification of infective endocarditis and septic emboli is clinically important in formulating the treatment strategy. [3]

Contrast CT and MRI are used to identify both the extent and location of post embolic infarcts or abscess. [4]

Underlying heart disease, cardiac surgery, prosthetic valves, intravenous drug use, old age, immune suppression and dental infection are the major risk factors for infective endocarditis. Vegetation on the mitral valve, vegetation larger than 10mm size, mobile multiple vegetations, annular abscess, the causative organism being staphylococcus aureus, are the main risk factors for infective endocarditis causing multiple septic emboli. [3,4]

Infective endocarditis with septic emboli may present with multiple organ or system involvement such as Central Nervous System (CVS), pulmonary system, extremities, spleen, kidney, coronary vessels, liver, bone and joint structure, iliac arterial system or mesentery arteries. [5]

According to the organ or system involved, they may present with different symptoms. CNS involvement may present with focal neurological symptoms such as hemiparesis, diplopia, aphasia, and non-focal neurological signs such as headache, seizure and altered mental state. Renal involvement may present with loin pain, glomerular nephritis and haematuria. Pulmonary involvement present with pleuritic chest pain, cough, haemoptysis, pulmonary infarction, abscess, pneumothorax and pulmonary infiltrates. Mesenteric artery involvement may present with acute abdomen. Liver involvement may present like liver abscess. Mostly right side infective endocarditis present with pulmonary septic emboli.

The major goal of therapy is to eradicate the infectious agent from thrombus. The prolong administration of IV antibiotic is the main stay of treatment. If patient develops any complication, he may need multi organ supportive treatment like heart failure regime for heart failure and heamodialysis for renal failure.

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Poor response to medical therapy, recurrent septic emboli, persistent sepsis, fungal infective endocarditis and any septal are indications for surgical intervention.

History

A 74 years old male patient with Rheumatoid arthritis and Felty syndrome with splenectomy done 14 years ago, presented with fever for 2 weeks with chills and rigors, dysuria, right side loin pain and multiple joint pain. He also complained of cough with exertional shortness of breath and pleuritic chest pain with reduced appetite. On examination, a systolic murmur at the cardiac apex radiating to left axillary region without peripheral stigmata of infective endocarditis, bilateral lung crepitations, right hypochondrial tenderness and a swollen left knee without features of septic arthiritis were found.

His Hb was 8.2 g/dl, WBC- 21x103 mm3, Neutrophil- 71%, CRP 224 mg/dl, ESR -104 mm, S.creatinine -1.8 mg/dl, UFR- microscopic haematuria.

ECG- T wave inversion LI, LII,V4-V6, Troponin I- Negative. 2D echo revealed vegetation in the posterior mitral valve leaflet and mild LV failure with Ejection Fraction approximately 45%.

AST-212 U/L, ALT-194 U/L, ALKP-316 IU. Two blood cultures of 12 hours apart were positive with enterococcus. USS abdomen showed embolic ischaemic infarction in the liver withsmallabscess formation. CXR- PA showed aleft sided cavitating lesion which was confirmed by a CECT Chest. CECT abdomen revealed an infarcted area on upper pole of right kidney with tiny abscess formation and infarcted areain liver with small abscess formation. Percutaneous drainage with USS guidance of renal and liver abscess was tried, but aspiration was failed due to small cavity and partialliquification. Leftside knee joint aspiration fluid was normal, sputum AFB negative, mantouxtest was negative. Meliodosis antibody titre was negative. Upper GI and lower Glendoscopy was normal. He was treated with IV ceftriaxone, IV clinidamycin, IV teicoplanin, Aspirin, Atorvastatin, clopidogrel, ISMN, Lasix and captopiril. S.C enoxaparin was given for 4 days. Antibiotic was planned to be given for 42 days.

Fever settled and patient clinically improved. On day 20, posterior mitral valve vegetation size was found to have decreased in repeated 2D echo. But unfortunately, on day 38, he complained of severe chest pain and suddenly went into a cardiac arrest and passed away despite efforts to resuscitate.

Discussion

A 74 years old patient with rheumatoid arthritis who had undergone splenectomy for felty syndrome came with high fever, multiple joint pains with severe left side knee joint pain. But knee joint aspiration was normal. We have excluded septic arthritis. He haddefaulted treatment for 2 years. Rheumatoid arthritis relapse was also possible. But there was a cardiac murmur, and miral valve vegetation was found on 2D echo, Blood culture was positive forenterococcus and multiple septic emboli were found in imaging studies These features were favouring the diagnosis of infective endocarditis.[1,6]

Infective endocarditis with embolic or metastatic manifestations have higher mortality rate than infective endocarditis without embolic manifestation.[7]

This patient hadcontributary factors like old age and splenectomy with immune deprivation leading to infective endocarditis with multiple septic embolization.
Generally left sided infective endocarditis leads to multiple septic emboli in the brain, kidney, liver and intenstine. But septic pulmonary embolism is an uncommon condition, generally associated with right side infective endocarditis.[8,9]

But in this case, the patient was found to have left sided infective endocarditis associated with multiple septic emboli with pulmonary involvement.

This is may be due to haematogenous spread with bacteremic seeding secondary to severe immune deprivation or sometimes vegetation in the right side valve with less than 3mm size may not be detectable by 2D echo.[1] Because of older age, Rheumatoid arthritis with defaulted treatment, there is increased risk of ischaemic heart disease. [10] And severe immune deprivation, with Infective endocarditis with multiple complications aggravate ischemic event and finally can lead to myocardial infarction which may explain the final outcome of this patient.

We report this case as a rare complication of left sided infective endocarditis with multiple septic emboli with pulmonary involvement and also as a case with multiple complications which made it a great challenge in management.

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CASE REPORT

Cerebral Hemispheric Infarction after Russel's Viper bite

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Abstract :

Russel's viper (Daboia russelii) is a highly venomous snake erratically distributed in the South Asia and the Russell's viper (RV) is responsible for 30–40% of the snake bites in Sri Lanka. Common clinical manifestations of RV bite are platelet dysfunction and coagulopathy, neurotoxicity, haemolysis, rabdomyolysis, nephrotoxicity etc. However increased coagulopathy has been rarely reported. Early NCCT brain should be arranged if a patient is becoming drowsy following RV bite in order to identify haemorrhage or cerebral infarction and oedema and intervened early. We report a rare case of a 42 year old lady who became drowsy following a RV bite where she was found to have a complete right hemispheric infarction with midline shift.

Keywords

Cerebral infarction, Russel's Viper, Mid-line shift

Introduction

Russel's viper (Daboia russelii) is a highly venomous snake erratically distributed in the South Asia (1). Number of admissions due to snake bite in Sri Lanka is approximately 37,000 per year and the Russell's viper (RV) is responsible for 30–40% of the snake bites (2). Up to 70% of RV venom is composed of Phospholipase A2 while the rest are L-amino acid oxidase, endonuclease, phosphodiesterase, 5'-nucleotidase, phosphomonoesterase, paraoxonase, hyaluronidase and a variety of proteinases including endopeptidase and arginine esterhydrolase (3). Phospholipase A2 is responsible for the array of manifestations such as platelet dysfunction and coagulopathy, neurotoxicity, haemolysis, rabdomyolysis, nephrotoxicity etc. (3). However features of increased coagulopathy has been rarely reported.
We report a rare case of a 42 year old lady who suffered an infarction of the complete right cerebral hemisphere following a RV bite.

Case history

A 42 year old lady admitted to a peripheral hospital within one hour following a RV bite. She had no local or systemic signs and symptoms of envenomation. Whole blood clotting time (WBCT) was less than 20 minutes. After 2 hours patient complained of abdominal pain but did not demonstrate any other features of envenomation and the WBCT was less than 20mins. The patient became drowsy with GCS 13/15 at the 3rd hour of presentation and the abdominal pain persisted and WBCT was prolonged. Hence anti-venom serum (AVS) 20 vials was administered. Despite AVS patient became progressively drowsy necessitating endotracheal intubation and mechanical ventilation. The non-contrast CT (NCCT) brain revealed oedema of the right cerebral hemisphere with midline shift (Image 1). Then the patient was transferred to our unit for further management.

On admission the patient was on ventilator with GCS 3/15 without sedation. The NCCT brain was repeated and it revealed infarction of the complete right hemisphere with midline shift (Image 2). 10 vials of AVS administered again and the patient was admitted to the ICU. Craniectomy was considered in this patient. However as there was significant midline shift with coning, established infarction and as the GCS was 3/15 it was opted against. Within less than 12 hours of admission to the ICU patient succumbed to the snake bite and cerebral oedema.

Discussion

RV is a highly venomous viper. One of the common clinical manifestations of the RV bite is coagulation defect due to venom induced consumptive coagulopathy (VICC) (4). The pro-coagulant toxins in the venom activates the clotting cascade leading to consumption of the clotting factors leaving the body

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deficient of the clotting factors creating a state of coagulopathy (4). This results in increased risk of bleeding including intra-cranial haemorrhage (ICH). However the clinical presentation of this patient was complete infarction of the right cerebral hemisphere leading to cerebral oedema and midline shift. There have been few cases reported where the patients developed infarctions following snake bite. Siddalingana et al and Jyotirmoy et al have reported two cases where the patients developed a posterior circulation infarction and a middle cerebral artery territory infarction respectively following RV bites (5) (6).

Three theories have been postulated as for the pathogenesis of infarctions in snake bite.

1. Damage to the vascular endothelium and vasculitis by the venom resulting in pro-coagulable state in the cerebral vessels causing infarction (5).
2. Hypotension causing watershed infraction, Hypotension can be due to excessive sweating, vomiting, and increased vascular permeability due to release of vasogenic agents or adrenal hemorrhage. Procoagulants in the venom such as arginine, esterase, hydrolase, hyper viscosity due to hypotension can result in a hypercoagulable state in the blood vessels causing an infarction (6). This usually involve the watershed areas of the brain.
3. Hypercoagulation due to the components in snake venom is a better explanation for the manifestations.

First and the third hypothesis can explain the manifestation of this patient. The first hypothesis can explain the pathogenesis if multiple vessels are involved. The third hypothesis of hypercoagulation due to the components in snake venom is a better explanation for the manifestations of this patient.

Decompressive craniectomy is a viable option for intractable cerebral oedema (7). However the outcome of the surgery depends on multiple factors. An early decompressive craniectomy may have resulted in a favourable outcome in this patient. Performing a major surgery while the patient is having a coagulopathy is risky. However the coagulopathy could be corrected with blood products and the surgery may be attempted.

In conclusion, cerebral infarction is a serious but rare complication of RV bite. Early NCCT brain should be arranged if a patient is becoming drowsy following RV bite in order to identify haemorrhage or cerebral oedema and intervened early.

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CASE REPORT

Poorly Responding Pneumonia end up with Pnemocystis jirovecii

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Abstract :

Pnemocystis jirovecii pneumonia is the most common opportunistic respiratory infection in patients with AIDS. It typically occurs in patients with HIV with a CD4 count <200cells/microL. Oxygen desaturation with exercise highly suggestive of pnemocystis jirovecii Pneumonia. This case report about the Pnemocystis jirovecii pneumonia presented as poorly responding pneumonia with progressive worsening of MRC breathlessness scale .

Key Words

pnemocystis jirovecii pneumonia, HIV, Pneumonia in immunocompromised .

Introduction

Pneumocystis Pneumonia (PCP) is a potentially lie threatening infection that occurs in immunocompromised individuals. The nomenclature for the species of Pneumocystis that infects humans have been changed fom Pneumocystis carinii to pnemocystis jirovecii,this was done to distinguish it from the species that infects rats. HIV- Infected patients with a low CD4 counts are at the high risk of Pnemocystis jirovecii pneumonia. Others at substantial risk include transplant recipients, those with cancer, and those receiving glucocoticoids, chemotherapeutic agents and other immunosuppressive medications.

The incidence of pnemocystis jirovecii pneumonia dramatically declined due to effective antiretroviral therapy and to a lesser extent the use of prophylaxis. The clinical manifestations of pnemocystis jirovecii Pneumonia are most commonly gradual in onset, and characterized by fever , cough, and dyspnea progressing over days to weeks. The incidence of pnemocystis jirovecii Pneumonia in HIV infected patients increases as the CD4 counts decreases, with most cases occurring when the CD4 count drops below 200cells/ microL. Hypoxia occurs with progression of pnemocystis jirovecii Pneumonia. The alveolar- arterial oxygen gradient is widened. Oxygen desaturation can occur with exercise and highly suggestive of a diagnosis of pnemocystis jirovecii Pneumonia.

Case History

35 year old gentleman from Chenkalady , with the history of progressive worsening of SOB,and on & off fever for 3months duration. He was a known BA pt diagnosed 10years back and not on clinic follow up and also not on regular inhaler He worked at Malaysia for last 2 years. He developed frequent SOB last one year. Because of symptoms ten month back he returned back to Srilanka. The symptoms progressively worsen over last three months. He attended several GPs for last ten months and he was diagnosed as lung infection and treated with antibiotics on several occasions. He transiently got improved with treatment, but it again recur. One month back he got inward treatment at Teaching Hospital Batticaloa and course of IV antibiotics was given over a week and discharged. Following week he again developed fever and SOB and again got admitted.

He had on and off fever for last three month. It was low grade fever responded to Paracetamol.. Not associated with chills or rigors. Not associated with night sweat Patient had cough with minimal white sputum. Cough mostly associated with exertion. No history of haemoptysis. No history of early morning worsening of cough. He had history of loss of appetite and loss of weight for last 6 months. He lost around 14kg within last six months.

His UOP was normal. Patient did not have history of joint pain or rashes in body. No history of chest pain / palpitation/ orthopnoea / PND/pedal oedema. NO history of nausea / vomiting/ abdominal pain. His bowel opening was normal He was treated for possibly DHF in Malaysia 1year back (no record available) with

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IV fluids and IV drugs. He didn't have history of blood transfusion There were no past history of TB. He was a priest married at his age of 20 years and separated within 6 month of marital life. He was a non smoker non alcoholic .No history of substance abuse. He denied the history of extra marital affairs. No contact history of TB .Not had pets or birds at home. On examination he was mild tachypnia RR 26/min. He found to have B/l inspiratory Fine crackles along with coarse crackles heared in lower zones. Other system examinationas normal. Investigation revealed.

1) FBC
   - WBC 8800
   - N 85%
   - Lym 10%
   - Eo 1%
   - Hb 11.5
   - Plt 318000
2) CRP 79
3) ESR 51
4) LFT Normal
5) RFT Normal
6) Urine Culture negative
7) Blood culture negative
8) USS Normal
9) 2D ECHO Normal
10) Sputum AFB negative ,
11) Mantoux negative ,
12) TB PCR negative
13) ABG

	Rest	Exertion
PH	7.59	7.5
Pco2	27.7	22
Po2	63.3	57
Hco3	24.4	17

14) CXR B/L lower zone Infiltrates
15) HRCT
    Lung volume is preserved
    B/l ground glass appearance involving the both lung fields and relatively sparing the apex
    Nodular opacities with basal fibrotic changes seen.
    No pleural effusion
    IMP: appearance are more in favour of NSIP
16. Retroviral (Elisa) positive
    western blot - confirmed
17. CD4 count 54 cell/mico li

Discussion:

This patient presented with poorly resolving pneumonia with progressive worsening of SOB. The Patient poorly responded to treatment with the broad spectrum antibiotics. Cultures were negative with chest X ray evidence of B/L Infiltrates. HRCT done and it revealed NSIP.

But while in the ward his MRC breathlessness scale worsening from 3 to 5. The ABG showed significant desaturation and with exertion it further dropped. HRCT also noted B/l ground glass appearance involving the both lung fields. With his background history of foreign travel we strongly suspected pnemocystis jirovecii Pneumonia and started trimethoprim -Sulamethoxazole. Patient showed clinical improvement.

Subseuently we received the positive retroviral report confirmed with western blot. The CD4 count came as 54 cell/mico li. We discussed with the patient further and revealed the reports to him and finally he came out with the history of sexual contact at Malaysia. We arranged subsequent treatment with National STD/AIDS Control programme (NSACP).

Conclusion:

We have to consider the pnemocystis jirovecii when poorly responding pneumonia with progressive worsening of SOB and the evidence of oxygen desaturation specially with exercise even patient denies the possible contact history

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CASE REPORT

Co-Infection of dengue hemorrhagic fever and leptospirosis complicated with tubulointerstitial nephritis

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Abstract :

Dengue fever and leptospirosis have common clinical presentation and both these conditions are more commoner in rainy season.Differentiating them is a clinical challenge to the clinician and serological diagnosis of dengue fever should not misdirect from diagnosing leptospirosis as a coinfection.We here report a case of coinfection of dengue hemorrhagic fever and leptospirosis complicated with tubulointerstitial nephritis

Keywords

coinfection, dengue hemorrhagic fever, leptospirosis, tubulointerstitial nephritis.

Introduction

Dengue fever which is now becoming a burden for health sector in Sri Lanka with number of reported cases reaching a hundred thousand in the year of 2019.This was almost the double the reported cases compared to previous year.[1]Dengue fever is a mosquito born viral disease that is transmitted by female mosquitoes mainly of the species of Aedes aegepti,to a lesser extent Aedes albopictus.[2]Mortality is increased when dengue is complicated with leakage or expanded dengue syndrome.[3] On the other hand leptospirosis is a zoonosis caused by a spirochete genus leptospira which mostly affects tropical countries . Leptospirosis has a high mortality specifically when it infects elderly population.[4]Since dengue and leptospirosis have common clinical presentation differentiating them is a clinical challenge to the treating physician.It is important to diagnose leptospirosis because early initiation of antibiotic treatment has favourable outcome.[5]At the same time identifying the dengue fever is also important as fluid management is vital part in the management. Nowadays dengue can easily be diagnosed in the early febrile illness using NS 1 antigen test.But we should consider leptospirosis as a coinfection if high clinical suspicion is there.We here a report a case of a 77 year old man who had dengue hemorrhagic fever with coinfection of leptospirosis complicated with tubulointerstitial nephritis.

Case Report

AA 77 year old man who was known to have hypertension presented to our unit with 4 days history of fever, headache,retro-orbital pain,arthralgia and myalgia.He was complaining of shortness of breath which was started one day prior to admission and it was progressive. He didn't notice any reduction in urine output.He had flood water exposure during the rainy season which was one week prior to the illness but he refused any contact history of fever. On the day 2 of fever his blood was checked for dengue NS 1 antigen which was positive. On examination patient was afebrile,had mild icterus with conjunctival suffusion,mildly dyspnic with respiratory rate of 18 bpm and evidence of right sided pleural effusion.SpO2 was 96% at room air which improved to 99% with oxygen.He was tachycardic with heart rate of 112 bpm and blood pressure 140/95 mmHg.His heart sounds were normal.Apart from right hypochondriac tenderness his abdominal examination was normal.

On admission we did ultrasound examination which showed free fluid in the hepatorenal pouch and pericholecystic area as well as bilateral pleural effusion.Complete blood count showed WBC of 18000 with neutrophil predominance, platelet

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count of 16000 and hemoglobin of 14.8 g/dl. He had hematocrit of 43, AST 146, ALT 108, and CRP 326.Arterial blood gas showed partialy compensated metabolic acidosis with PaO2 of 54 mmHg,PaCO2 of 32 mmHg and lactate of 3.2 mmol/l.His ESR was 78 mm/1st hour had ECG changes of sinus tachycardia with nonspecific ST segment depresions.Troponin I test was positive (3.5 ng/ml) and we arranged urgent 2D echocardiography which showed moderate left ventricular dysfunction with an ejection fraction of 50%.His electrolytes and renal function were also deranged.His serum creatinine was 4.2 mg/dl, blood urea 118 mg/dl, potassium 2.9 meq, calcium 6.8 mg/dl, magnesium 1.2 mg/dl.But his serum sodium was normal which was 138 meq.He had elevated bilirubin level of 64 micmol/l with elevated direct and indirect fractions.Serum albumin was 2.2 g/dl but PT/INR was normal.Creatinine phosphokinase was 448 U/L.

We started to manage as dengue hemorrhagic fever with critical phase fluid management and monitoring yet we considered leptospirosis as coinfection and started on intravenous ceftriaxone and arranged HRCT which showed bilateral pleural effusion but no features to suggest pulmonary hemorrhage.He maintained urine output of 35 -50 ml/hour throughout the critical phase.We tested the blood for dengue IgM and IgG on day 5 of illness which were positive.Meanwhile his urine potassium/ creatinine ratio was 2.8 meq/mmol which was two times above normal level.We replaced pottasium, magnesium as well as calcium intravenously.Patient showed clinical improvement with gradual normalisation of CRP, WBC,renal function test, bilirubin and electrolytes.On day 7 of illness his blood test was positive for leptospirosis IgM antibody.We continued the management as coinfection of dengue hemorrhagic fever and leptospirosis. After 7 days of intravenous antibiotics patient was discharged with oral potassium, magnesium and calcium supplements for one week duration.We reviewed the patient one week after the discontinuation of electrolytes supplementaion and repeated serum electrolytes as well as renal function tests were within normal limit. 2D echocardiogram was also repeated that showed good left ventricular function.

Discussion

Leptospirosis is a zoonotic disease associated with muddy water exposure,poor sanitation,agricultural occupation,bathing in water reservoirs as well as flood water exposure.This patient had exposure to flood water as well as symptoms and signs to suggest leptospirosis but he presented to us with positive dengue NS-1 antigen test which is done on the second day of febrile illness.This test has higher sensitivity when it's been done on first three days of illness.[6]Later on patient had positive dengue IgM and IgG tests which were done on fifth day of illness.But we have started on intravenous antibiotics to treat possible coinfection with leptospirosis and planned to send the leptospirosis antibody after fifth day of illness.He had electrocardiographic and echocardiographic changes with positive troponin I to suggest myocarditis.Ultrasonical evidence of dengue leakage was positive.Though bilateral pleural effusion can be due to moderate left ventricular dysfunction, fluid in pericholecystic area and hepatorenal pouch with normal inferior vena caval diameter favour the diagnosis of dengue hemorrhagic fever.

We successfully managed dengue critical phase without complication and blood for leptospirosis IgM ELISA was positive. According to modified Faine's criteria which is very useful in diagnosing leptospirosis[7] patient was diagnosed to have leptospirosis which was later on confirmed by microscopic agglutination test.He had tubulointerstitial nephrirtis which is a well known complication of leptospirosis and he developed hypokalemia,hypomagnesemia and hypocalcemia with elevated renal function tests.This abnormalities can be due to antibiotic treatment but it was noted prior to initiation of intravenous ceftriaxone and improved with supportive therapy while continuing the antibiotic treatment.Since tubulointerstitial nephritis due to leptospirosis often non oliguric with electrolytes imbalance [8] we managed the patient with electrolyte replacement and maintaining the fluid balance.His renal function and electrolytes gradually normalized over few days

Conclusion

Leptospirosis is endemic in most areas where dengue virus is transmitted and it may be misdiagnosed as dengue fever. It's important to consider coinfection of leptospirosis and dengue when clinically suspicious.Antigen positivity for dengue during the initial febrile illness should not misdirect a clinician from diagnosing leptospirosis.Careful fluid management in the critical phase of dengue and early initiation of proper antibiotic treatment for leptospirosis.It

carries good outcome.Since tubulointerstitial nephritis caused by leptospirosis is often non-oliguric with electrolyte imbalances,monitoring the renal function tests,maintaining the fluid balance and electrolytes replacement help to reverse the condition.

Conflicts of interest

Authors declare no conflicts of interest.

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CASE REPORT

Dengue hepatitis and bleeding in a patient with liver cell disease and without features of leaking. A case report

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Abstract :

Dengue has become a major diagnostic and management dilemma to a physician in tropical countries. Dengue fever can present like anything and can affect all age ranges. When dengue fever occurs in an individual with co-morbidities affecting the same organ systems affected by dengue and similar consequences produced by dengue, it would be a diagnostic and management dilemma to the attending physician. Here we are presenting a case of dengue fever with bleeding manifestations without features of a leak occurred in an individual with Chronic Liver Disease caused by alcohol and developed delirium due to alcohol withdrawal at the same time.

Introduction

Dengue is a flavi virus which is transmitted by aedes mosquito. The infection exerts a huge impact on public health and health related costs in tropical countries. A dengue infected patient is always a challenge to attending physician. The virus can affect the vascular endothelium to cause extra vascular fluid leakage, bone marrow to suppress platelet production, platelets themselves to function abnormally and destroy prematurely and liver to derange clotting mechanisms which predispose to hemorrhagic diathesis. [1,2,3,4,5] Chronic liver cell disease (CLCD) also affects hepatocytes to cause clotting abnormalities, elevated liver enzymes and low platelets.[6,7,8,9] Alcoholic hepatitis and cirrhosis are known causes for elevated aspartate transminase (AST) more than alanine transaminase (ALT). Similar pattern of transaminitis is observed in dengue infected patients. . [10,11] Coincidence of such diseases which manifest with thrombocytoaenia and fluid leakage is a diagnostic and a therapeutic challenge. . An epidemic of dengue fever in a country with higher prevalence of alcohol abuse may increase the probability of such a coincidence. We report a case of Dengue hepatitis and bleeding in a patient diagnosed with alcohol related chronic liver cell disease and thrombocytopenia who is still abusing alcohol..

Case history

A fifty year old farmer presented with fever for six days. He was having intermittent high grade fever with chills and rigors, nausea, vomiting and anorexia but did not complain of body aches or headache. He also did not complain features suggestive of bleeding or leaking. Past medical history included chronic liver cell disease diagnosed two years ago but with a platelet count of 341,000/uL one year before. He had a good urinary output but complained of passing tea coloured urine and no pale stools.

The Body mass index was 18.5 Kg/m2 and he was febrile, pale and deeply icteric. Blood pressure was 150/85mmhg and had a tachycardia of 108 beats per minute. He also had a 3 centimeter non tender uniform hepatomegaly without splenomegaly. No peritoneal or pleural free fluid noted. Other systemic examinations were unremarkable.

He was started to manage as dengue fever with alcoholic hepatitis on clinical suspicion. Initial investigations revealed thrombocytopenia with platelet count of 25,000/uL, Packed cell volume of 37%, total white cell count of 8275/uL. Prothrombin time INR was 2.12 and APPT was 57 seconds. Dengue IgM antibody was positive and IgG was negative. Other investigations were shown in the table 1. Since his AST were in 8748 IU/L with abnormal

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prothrombin time, he was started on N- acetyl cystine (NAC) infusion too. Following day patient became confused with development of acute delirium due to alcohol withdrawal. He was admitted to the intensive care for further care. The liver enzymes started to come down with the NAC infusion and the PT/INR too. After management of acute delirium patient was taken into the medical ward. But still the patients' platelet count was coming down reaching 3000/uL. On the fourth day of illness he developed gross hematuria and gum bleeding. The thromboelastogram (ROTEM) showed a quantitative defect of platelets needing transfusion of platelet concentrates due to active bleeding (figure 1). Bleeding was settled with the platelets transfusion. On the 6th day of illness patient was clinically stable with no bleeding, rising platelet count of 30,000. He also had reduced liver enzymes too.

Table 1. The blood investigations changed with the time

Parameter	Unit	Day 1	Day 2	Day 3	Day 4	Day 6
White cell count	/ uL	8275	7930	9530	9300	8750
Hemoglobin	g/dL	12.5	11.5	11.2	10.5	10.4
Platelet count	/ul	25000	22000	5000	3000	15000
Hematocrit		37	36	35	32	34
AST	IU/L	8748	4718	1523	903	35
ALT	IU/L	2853	2234	2114	992	36
Alkaline Phosphatase	U/L	1571		4023		167
Billirubin Direct	umol/L	52			100	34
Billirubin Indirect	umol/L	44			92	198
Prothrombin time INR		2.21	1.87		1.38	1.31
APTT		57	66			
Serum Amylase	U/L	412		188		

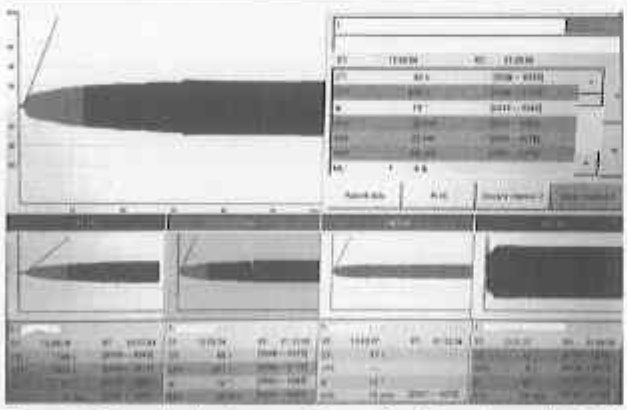

Figure 1. Thromboelastogram of the patient showing no defect in fibrinogen functions or extrinsic or intrinsic pathways of clotting.

Discussion

Anorexia, nausea vomiting, lower BMI with deep jaundice and non-irregular hepatomegaly were the symptoms we needed to workout with. Alcoholic hepatitis, dengue fever and leptospirosis in a background of CLCD were the initial diagnosis of interest.

But considering the higher incidence of dengue and leptospirosis (reference), co infection was also considered. Co incidence of alcoholic hepatitis with dengue and/or leptospirosis was entertained. High AST/ALT ratio is observed in dengue and alcoholic hepatitis which is not seen in leptospirosis. Significant elevation in direct bilirubin fraction is seen in alcoholic hepatitis and leptospirosis but not in dengue [1,2] The AST levels of eight thousands is not compatible with alcoholic hepatitis which favored dengue hepatitis, ischemic hepatitis or paracetamol toxicity. Stable hemodynamic status was observed during the phase of transaminitis, does not favor ischemic hepatitis. .[3,4] Viral Hepatitis, Yellow fever and Dengue can have very high transaminases levels and among them Dengue is the most likely to cause high AST in relation to ALT.[5] Dengue IgM positivity favored the diagnosis of dengue fever. The dengue infection in this patient who had already damaged liver with alcohol and malnourished state (low BMI) leading to glutathione deficiency with poor antioxidating caacity may have lead to acute severe liver damage on this occasion.

A Patient presented on 6th day of fever and developing bleeding on 10th day of fever needs an explanation. Possibilities could be patient still not going to a leak and developed bleeding purely due to thrombocytopenia due to Dengue infection. Another possibility is patient presented late after critical phase is over where we could not find the leak. Dengue fever patients usually get leaking and get into hemorrogic manifestations later on but it is not a rule. On the other hand defective liver functions affecting on coagulation cascade may also be a cause for the bleeding. But ROTEM did not show fibrinogen defect or extrinsic or intrinsic pathway defect to cause the bleeding. However other organ involvement such as heart, brain and kidney was not seen fortunately. High INR, APTT with thrombocytopenia may be explained with DIC. But blood picture did not show fragmented cells. High INR and APTT with normal coagulation in ROTEM may favor liver disease than DIC. Because liver disease causes defects in coagulation as well as fibrinolysis which may balance the risk of bleeding and thrombosis. A patient with liver disease may be in a state of hyper coaguable state or hemorrhagic state depending on the pattern of impairment in coagulation cascade. Neither risk of bleeding nor thrombosis may be increased due to abnormalities in coagulation cascade in liver disease which is observed in this case.

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CASE REPORT

Dermatomyosities without muscle involvement with Pneumomedistinum : Clinically amyotrophic Dermatomyosities (CADM)

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Abstract :

Amyotrophic Dermatomyositis is a variant of Dermatomyositis. It accounts for 20% of Dermatomyositis. It can present with typical rash without involvement of muscle. It is associated with malignancy and lung involvement. Development of pneumomedistinum is a rare complication and bad prognosis. This case report about the Clinically amyotrophic dermatomyositis with high CEA and CA19-9 and pneumo medistinum .

Keywords

Amotrophic Dermatomyosities, Pneumomediastinum, Dermatomyosities.

Introduction

Dermatomyosities is an idiopathic inflammatory myopaty with characteristic cutaneous manifestations. This systemic disorder most frequently affects the skin and muscles but also affect the joints, oesophagus, lungs. Incidence of DM and PM has been estimated at 2/100 000annally. F:M 2:1. Peak incidence 40-50yeras . Considered to be the result of a humoral attack against the muscle capillaries and small arterioles Etiology unknown , however genetic immunologic infectious and environmental factors have been implicated. 25% associated with malignacy. Reported malignancy lung, colon, prostate, breast, pancreatic, cervical, haematological malignacy . Spontaneously remit in as many as 20% of afected patients. About 5% have a fulminant progressive course with eventual death. However patients who survive the disease may experience residual weakness and disability.

Most patients of DM exhibit both cutaneous and muscle weakness called classic DM. However, a subset of patients develops characteristic skin findings of DM in the absence of muscle symptoms. This group referred as clinically amyopathic dermatomyositis (CADM) and contains both patients who lack clinical findings of myosities but have evidence for myosities on laboratory, radiologic or electrophysiologic studies (Hypomyopathic DM), and patients in whom all signs of muscle involvement are abscent (Amyopathic DM). CADM accounts for 10-30% of DM cases. CADM mostly associated with malignancy and lung disease than classic DM

Characteristic cutaneous findings include Heliotrope rash, Gotton papules, Gotton sign, facial erythema, photo distributed poikiloderma (Shawl and V signs), Holster sign, Peri ungula abnormalities, psoriasiform changes in scalp.

Weakness of the striated muscle of the upper one –third of the oesophagus contributes to dysphasia.

Intestial lung disease occurs in approximately 40% of patients with DM or PM.

Spontaneous pneumomediastinum is rare but serious complication DM. Approximately one –half of patients with DM who develop a pneumomediastinm have amyotrophic DM

Case history

54 year old gentleman from Meeravodai with no significant past medical history, has been admitted with the history of facial rash for 4weeks duration and difficulty in swallowing for 1week duration.

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He initially developed knee joint pain, after a week he noted there was a rash developed over the face , anterior neck, B/L hand, extensor surace of the fore arm and palm. It was non itchy and no variation of color or size with time.

He developed difficulty in swallowing three week after the onset of rash. It was mild symptoms and he managed to have meals. It associated with reflux. There were no variation of symptoms with solid / liquid diet .

He had history of loss of weight and loss of appetite for last 6 weeks. He lost around 3kg within this period. He had persistent B/L knee joint pain but no swelling. Other joints are normal

He had difficulty in breathing on exertion and tiredness for last 1 month. Not associated with cough or sputum. He didn't have history of muscle pain .No history of oral /genital ulcer . No urethral discharge

He is a fisherman. Married having 3 children.

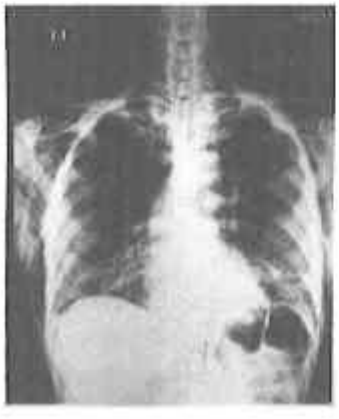
On examination there was a violet colour rashover the face , anterior neck, B/L hand, back of the fore arm and palm. There was a fine B/l inspiratory crackles along with coarse crackles heard in lower zones . Other examination findings were normal.

Investigations reveled CRP 01, ESR 49, UGIE normal functional symptoms likely. Skin biopsy shown Photo sensitive response .

CK 370- repeat CK -534 .

CEA	19.7	(<3 normal)
CA 125	9.5	(0-35 normal)
CA 19-9	71	(0-37 normal)
NCCT	B/L consolidation noted and Pneumo medistinum noted.	

Picture 1



Discussion

This patient initially present with Heliotrope rash, Gotton sign, facial erythema, photo distributed poikiloderma (Shawl and V signs), psoriasiform changes in scalp. This is the typical distribution of dermatomyosities. Subsequently patient developed dysphagia . UGI endoscopy not reveals any abnormalities. In dermatomyosities weakness of f the striated muscle the upper one third of the oesophagus contributes to dysphagia. We plan to do barium swallow and oesophageal manometry , but unfortunately patient died before perfoming.

This patient had exertional SOB with normal inflammatory makers and Haemoglobin level. 2D ECHO was normal. It might be an early presentation of ILD. Intestial lung disease is an important complication of this disorder. Occurrence of ILD associated with rapidly progressive pulmonary failure and death. DM having strong association with malignancy especially adenocarcinoma of lng pancreas, bladder and stomach. Our patient initial malignancy screening showed high level of CEA and CA19-9.

Treatment for CADM is challenging. Cutaneous manifestations are often more resistant to therapy tan concomitant muscle involvement. Use of immunosuppressive drugs for cutaneous DM for two consecutive months or longer within the first six month of skin disease may prevent the development of clinically significant myosities. Our patient we treated with prednisolone . while e were investigating the patient, he developed respiratory failure and pneumo mediatinum. We treated him in medical ICU. But patient not responded to treatment and died. Spontaneous pneumomediastinum is a rare but serious complication. Approximately one half of patient with DM ho develop a pneumomediastinum have amyopatic DM.

The presence o f dysphagia , respiratory muscle weakness, intestinal lung disease and associated malignancy predict the worse outcome in this patient.

Conclusion

Dermatomyosities should be considered in the absences of muscle involvement / abnormal muscle enzymes whenever the patients having other signs and symptoms. CADM is not an uncommon presentation of DM.

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CASE REPORT

A young lady with Dengue Haemorrhagic Fever complicated with Diabetic Ketoacidosis, myocarditis, severe acute kidney injury and acute fulminant hepatitis

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Abstract :

Dengue virus infection has become a major public health problem in Sri Lanka for last 5 years. 17417 suspected cases reported in Sri Lanka since 1st of January 2020 to 15th of March1. Dengue haemorrhagic fever (DHF) is characterized by the acute onset of high fever and is associated with signs and symptoms similar to dengue fever (DF) in the early febrile phase. Plasma leakage is the hallmark of DHF which occurs soon after the end of the febrile phase. Dengue fever is rarely known to cause diabetic ketoacidosis (DKA) among diabetic patients. We report a case of 34 year old lady presented with DHF complicated with DKA, myocarditis, severe acute kidney injury (AKI) and acute fulminant hepatitis.

Key words

Dengue Haemorrhagic fever (DHF), Diabetic ketoacidosis (DKA), Myocarditis, Acute kidney injury (AKI), Acute fulminant hepatitis

Introduction

Dengue fever is an acute febrile illness caused by 4 serotypes of Dengue virus (DENV1, DENV2, DENV3, and DENV4). DHF is a life threatening complication of dengue characterized by high fever lasting 2-7 days, haemorrhagic phenomena (including vascular leakage of plasma), low numbers of platelets and sometimes circulatory failure. The condition of some patients progresses to shock. This is known as dengue shock syndrome (DSS), which could be rapidly fatal if appropriate volume replacement therapy is not administered promptly. Without proper treatment, DHF case fatality rates can exceed 20%. With modern intensive supportive therapy, it can be reduced to less than 1%2 Clinical course of DHF is stereotypic and consists of three stages; Febrile phase, Critical phase (leakage phase), Convalescent phase. Type 1 and Type2 diabetes mellitus increase risk of plasma leakage by various mechanisms. During hyperglycaemia in dengue fever, urine output may not be a good guide of the volume status of the patient as the patient can be polyuric even during shock. Acidosis may be contributed both by the shock and ketones and may not reflect the severity of shock. DHF with DKA is a challenge to treating physician regarding fluid management.

Case Presentation

A-34 year old mother of two children presented with fever for three days, difficulty in breathing for last one day, arthralgia and myalgia, headache, nausea, reduced urine output and inter-menstrual flow. There was no abdominal pain. She was diagnosed to have Gestational Diabetes Mellitus (GDM) in her last pregnancy and was not on regular follow up for her glycaemic control.

On examination she was obese, afebrile, dehydrated and agitated. Her pulse rate was 126 bpm, blood pressure was 110/90 mmHg, respiratory rate was 48/min, breath sound reduced on her right lower zone suggestive of pleural effusion. Abdominal examination was normal.

On admission capillary blood sugar was 317 mg/dl and urine Ketone body was positive. Bedside ultra sound scan revealed right side pleural effusion. Dengue NS1 antigen was positive. Arterial blood gas revealed pH of 7.28, bicarbonate of 9.4mmol/l, Lactate of 8.9. Serum biochemistry showed Sodium of 132mmol/l, Potassium of 9.27mmol/l, blood urea 54mg/dl, serum creatinine of 2mg/dl, Serum Glutamic Pyruvic Transaminase (SGPT) of 4144U/l, Serum Glutamic Oxaloacetic Transaminase (SGOT) of 8700U/l, serum albumin 2.6mg/dl, INR 2.47, Activated Partial Thromboplastin Time was 33.7 Sec, serum corrected calcium was 7.3mg/dl, C-reactive protein of 44mg/L, serum ferritin of 23000 ng/ml, full blood count as in the table.

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Date	Day 1		Day 2					Day 3
Time	06:30 PM	10:00 PM	12:42 AM	03:47 AM	07:57 AM	02:55 PM	09:22 PM	06:29 AM
WBC(x10⁹) (4-11x10⁹/L)	12.5	11.6	11.76	14.85	18.15	13.55	14.38	17.63
Hb(11.5-14.5 g/dl)	18.5	15.6	13.3	14.6	14.8	10.9	10.2	9.6
Haematocrit (%)	56	46.7	40.7	44.2	45.8	33.9	32.1	29.3
Platelet (x10⁹/L) (150-450x10⁹)	21	10	18	13	26	27	29	49
ALT (7-56 U/L)	4144		4397			5166		8349
AST (10-40 U/L)	8700		8324			22028		29744
S.Creatinine (mg/dl)	2.0		2.5			3.4		3.0
PT/INR	2.47		4.41			5.69		6.0
CRP (mg/L)	44		30			32		23

Initially we have treated with normal saline boluses and insulin infusion. Hyperkalaemia corrected with intravenous calcium gluconate and insulin-dextrose infusion. DHF monitoring chart started and hourly monitoring done. Then patient was transferred to intensive care unit. Fresh blood transfused early in the phase of leaking. Central venous catheter inserted by consultant anaesthetist and fluid management given according to the central venous pressure. Urine output was nil. Hyperkalaemia and hyperglycaemia were corrected but the metabolic acidosis was worsened even with bicarbonate infusion. As her ferritin was 23000ng/ml we managed with Intravenous methyl prednisolone and ceftriaxone started empirically. Because of low platelet count dialysis catheter inserted after 5units of platelet transfusion. Renal function was deteriorated and continuous renal replacement therapy was given with the nephrologist opinion. N-acetyl cysteine (NAC) infusion started after gastroenterologist opinion due to worsening of liver enzymes and high INR. Then patient developed distress and electively intubated and ventilated 12 hours after admission. After 36 hours of admission she went into cardiac arrest even with cardio pulmonary resuscitation unfortunately she has passed away.

Discussion:

This is a case report of DHF with DKA. In DHF meticulous fluid administration is vital but in DKA we need more fluids to correct dehydration. Actually it is a great challenge to a treating physician. In this patient NS1 antigen was initially positive and following day dengue IgM and IgG were positive so fever days may be incorrect. A few cases of dengue illness precipitating diabetic ketoacidosis have been reported in the literature, but transient hyperglycaemia with ketosis and acidosis during dengue viraemia has not been reported in the literature. One review article concluded that those who reported diabetes were two and half times as likely to have dengue haemorrhagic fever3. The physiopathology of dengue haemorrhagic fever suggests amplification of the immune response due to the presence of heterotypic antibodies against a serotype of the dengue virus at the time of new infection4. Type 1 diabetes mellitus is commonly associated with autoimmunity and the immune system may be persistently activated with signs of inflammation in tissues and capillaries, and is more likely to lead to inflammation and liberation of pro-inflammatory cytokines in tissues, particularly in the endothelium, which explains the higher risk of plasma leak in dengue fever5. Type 2 diabetes mellitus is a metabolic disorder that changes the anatomical and physiological integrity of the endothelium due to a permanent inflammatory condition caused by activation of T-lymphocytes, which leads to the release of pro-inflammatory cytokines such as gamma interferon (IFNγ) and tumour necrosis factor alpha (TNF-α), which increases the risk of DHF.

Funding

None

Conflict of interests

None

Conclusions

Dengue virus infection is a major health burden in Sri Lanka. DHF is a life threatening condition in dengue fever. DHF with DKA is a challenge to treating physician. Both type 1 and type 2 diabetes increase the release of pro-inflammatory cytokines and increase the risk of plasma leakage in dengue fever. Meticulous fluid administration is vital. Early admission and prompt hydration will reduce the complications

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CASE REPORT

Guillain- Barré Syndrome (GBS) after herpes zoster infection – A Case Report

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Abstract :

Neurological complication following herpes-zoster infection is extremely rare and Guillain-Barre syndrome(GBS) is among the least common complication. Here we report a case of 62-year-old male with GBS secondary to herpes-zoster infection. Previously healthy male who was treated for herpes-zoster opthalmicus two weeks back presented with three days' history of lower limb weakness which progressed to involve upper limb and respiratory muscles on the following day which necessitate ventilation. Nerve conduction study confirms acute motor axonal polyneuropathy and lumbar puncture shows cytoprotein dissociation with positive varicella zoster DNA. He was managed with IV immunoglobulin and supportive management and drastic improvement was noted. Varicella zoster is associated with rare but dreaded neurological complications. Morbidity associated with varicella-zoster infection could be avoided by vaccination after an exposure who are seronegative.

Key words

Guillain- Barré Syndrome

Introduction

Preceding infections are the predominant trigger of Guillain- Barré Syndrome (GBS).[1] Epstein-Barr virus, hepatitis E virus, Mycoplasma pneumonia, varicella-zoster virus (VZV), and Zika virus have also been related to GBS, though the associated clinical and electrophysiological variants are less well-defined.[2] VZV is a neurotropic human herpesvirus. Neurological complications following primary chicken pox infection are extremely rare (0.01 - 0.03%) [3]. Guillain-Barre syndrome (GBS) is among the least common (1:15000) complications of varicella [4] Here, we report a case of 62-year-old immunocompetent male with GBS preceded by herpes zoster infection.

Case Report

A 62-year-old male previously well patient except herpes zoster ophthalmicus two weeks prior and past history of varicella infection presented with difficulty in walking for 3 days' duration which is progressive in nature. It was followed by weakness of both upper limbs and respiratory muscles on the following day.

Patient also had pain and tingling sensations in both hands and feet. On examination, upper limb, having power 4/5 MRC (medical research council) grading with lower limb of 3/5 and respiratory muscle involvement. Deep tendon reflexes were absent and sensory examination was normal. A provisional diagnosis of GBS was made. Nerve conduction study (NCS) study was done which was suggestive of acute motor axonal neuropathy (AMAN) variant, and the cerebrospinal fluid examination showed cytoprotein dissociation, which confirmed our diagnosis of GBS. His fasting blood sugar was normal and retroviral studies were negative. His immunoglobulin levels were within the normal limit. Varicella zoster DNA was found to be positive. Patient was started on intravenous immunoglobulin (IVIg) and supportive treatment and the patient's condition improved in due course of time.

Discussion

Patient clinical features were compatible with diagnosis of GBS i.e. weakness, paresthesias, and diminished or absent deep tendon reflexes. The VZV, is a rare antecedent for GBS and various cases with various pathogenic mechanisms have been reported since antiquity. In a study carried out by Jacobs et al,[1] it was found that only one case out of 154 could be attributed to VZV. GBS following herpes zoster typically has a latent period of two weeks to two months. Shorter latent periods, as in this case, are associated with more severe illness.

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Conclusion

Varicella zoster is associated with rare but dreaded neurological complications. Varicella is easy to diagnose with typical rash and pain and it should be treated with antiviral immediately so as to prevent or reduce such complications. Furthermore, we should suspect the dreaded neurological complications in immunocompetent as in this case.

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CASE REPORT

Hoffmann Syndrome as the Initial Manifestation of Hypothyroidism: A Case Report

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Abstract :

The neurological manifestations of hypothyroidism including myopathy are very unusual to see as initial symptoms 1 as they usually occur late in the course of disease. Hoffmann syndrome is a specific form of hypothyroid myopathy, characterized by proximal weakness, muscle stiffness and hypertrophy in adults, usually associated with autoimmune thyroiditis. We report a rare case of Hoffmann's syndrome of a 24-year-old man presented with a 6-month history of progressive proximal muscle weakness with calf muscles hypertrophy. Laboratory tests indicated markedly elevated serum creatine kinase (CPK) levels. EMG showed myopathy. Patient had a dramatic response to Oral L-thyroxine treatment and myopathy regressed. This report emphasizes that hypothyroidism should be considered as an important deferential diagnosis of myopathy with elevated creatine kinase levels

Key words: hypothyroid myopathy, Hashimoto thyroiditis

Introduction

Myopathy in hypothyroidism is observed in 30% to 80% 2 and, it can be divided into four subtypes: Hoffmann syndrome, Kocher-Debre-Semelaigne syndrome, atrophic form and myasthenic syndrome. Hoffmann's syndrome is a very rare form of myopathy in hypothyroidism completely reversible with hormone replacement therapy.

CASE PRESENTATION

A 25-year-old male presented with complaints of progressive weakness in bilateral lower limbs with difficulty in getting up from squatting position and climbing stairs, frequent muscular cramps, stiffness and pain in muscles for last 6 months that has severely affected his activities of daily living so that he had to quit his job. He also complained of forgetfulness, slowness of activities, cold intolerance, reduced sweating, constipation dry skin, loss of hair and impotence. Over the last 6 months he has gained 8 Kg despite loss of appetite. There was no significant past medical history. He is a non smoker and non alcoholic. There was no family history of thyroid disorders or proximal muscle weakness. On examination, His height was 151 Centimeters and weight was 72 Kilograms with a BMI of 32 Kg/m2. He had periorbital puffiness, non-pitting pedal edema, large tongue and generalized ichthyosis. There was generalized yellowish tinge sparing sclera suggestive of karotinemia. There was no goiter or vitiligo. He had a regular pulse rate of 56/min and his blood pressure was 130/90 mm Hg. Rest of cardiovascular and respiratory system examination was normal. Neurological evaluation showed bilateral proximal muscle weakness in lower limbs with grade 4 power and hypertrophy of bilateral calf muscles, (diameter was 39cm when measured 10cm below anterior tibial tuberosity) without any associated tenderness. No hypertrophy of thigh, arm, or any other muscle group was noted. There was classical delayed relaxation of bilateral ankle jerks.

Laboratory investigations revealed a T3 level of 0.11ng/ml (0.60- 1.81 ng/ml), T4 level of 0.18 µg/dl (4.5-12 µg/dl), and

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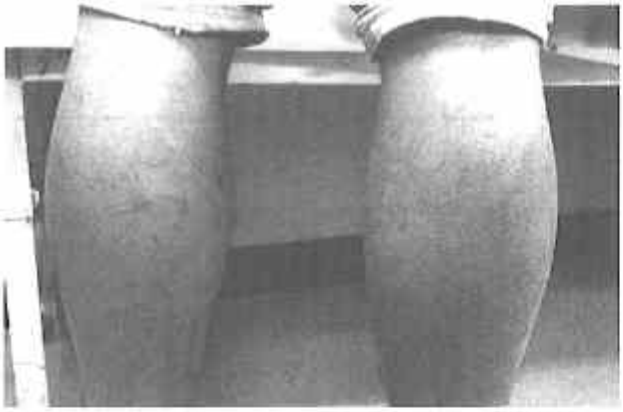
Image 1: calf muscle hypertrophy



TSH to be 150 µIU/ml (0.3-5.5 µIU/ml). Anti-thyroid peroxidase (anti-TPO) antibody was positive. CPK level was 6052 IU/l (<170 U/l). Serum lactate dehydrogenase (LDH) level was elevated at 1041 U/l (90-185 U/l). Blood picture revealed mild anemia. AST was elevated to 147 U/L (0-37) and ALT to 65 U/L (10-40). Blood urea and serum creatinine were normal. UFR was normal and myoglobinuria was absent. Lipid profile evaluation showed hypercholesterolemia. Total cholesterol was 400 mg/dl, with LDL of 300mg/dl, HDL of 28 mg/dL and Triglycerides were 180 mg/dl. Electrocardiography (ECG) showed low-voltage complexes and sinus bradycardia. 2D echocardiography showed mild pericardial effusion with normal systolic and diastolic functions. Nerve conduction study was normal. Electromyography showed small-amplitude myopathic motor unit potential. Based on the above findings, a diagnosis of Hoffman's syndrome was made. The patient was administered a starting dose of 100 µg/day of levothyroxine which was later escalated to 125 µg/day. Ezetimibe 5mg daily was started as a lipid lowering agent since statins could trigger myositis with the high CPK levels in our patient. On a routine follow-up after two months, his hypothyroid symptoms improved, T4 levels became normal. Weight came down to 63 Kg, proximal limb weakness disappeared and pseudo hypertrophy of the calf muscles regressed. Total cholesterol, LDL and Triglycerides became normal (200mg/dL,137mg/dL,108 mg/dL respectively)

Discussion

The muscular hypertrophy with muscle stiffness is reported in less than 10% of hypothyroid patients. Calf muscles (gastrocnemius) are almost always involved. The thigh, arm forearm muscles and tounge are involved to a lesser extent.

Primary hypothyroidism accounts for 95% of the cases of thyroid insufficiency. The main etiology is Hashimoto's thyroiditis. Similar presentation in children with cretinism is referred as Kocher-Debré-Sémélaigne syndrome but absence of painful spasms differentiates it from its adult form, Hoffmann syndrome.

Calf muscle hypertrophy with weakness is also seen in Duchenne and Becker muscle dystrophy, focal myositis, sarcoid granulomas, and amyloid deposits in muscles.

It has been postulated that the mechanisms involved could include an increase in connective tissue, increase in size and the number of muscular fibers, and hypertrophy due to accumulation of glycosaminoglycan.

A study by Ruchala et al3 reported a negative correlation between the adipo myokine irisin and thyroid stimulating hormone (TSH) levels and a positive correlation between irisin and free thyroxine levels. CK level was negatively correlated with irisin, FT4 and FT3 concentrations. A study by Zybek-Kocik et al4 reported finding a lower concentration of irisin in association with prolonged hypothyroidism which might primarily result from prolonged myopathy. Hoffmann syndrome carries a favorable prognosis once hormone replacement is instituted and most of the symptoms regress slowly with time, including the muscle enlargement as was the case in our patient.

Conclusions

Hypothyroidism is a very common endocrine disease and dinicians should be aware of this atypical and rare presentation of hypothyroid disease spectrum. Initial presentation with myopathic manifestations can postulate diagnostic dilemmas as calf muscle hypertrophy can also present in other diseases, like Duchenne and Becker's muscular dystrophy, amyloidosis, and focal myositis. Patients with those conditions should be screened with a simple thyroid profile before making the diagnosis of a more treatment resistant conditions. Hoffman syndrome represents those few forms of myopathy that completely reverse on prompt therapy with levothyroxine and, hence, has a favorable outcome.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

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CASE REPORT

A child with Blister Beetle Dermatitis: importance of clinical suspicion and preventative public health interventions in Mahaoya, Sri Lanka

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Abstract :

Blister Beetle Dermatitis is a seasonal irritant contact dermatitis which occurs following direct contact with body fluids of beetles. It often has a dramatic presentation and can be extensive if accurate diagnosis is delayed. We report the case of a seven year old child in whom blister beetle dermatitis was diagnosed early and treated successfully. Public health interventions are very important in primary prevention and prevention of seasonal outbreaks.

Keywords: Blisters, Beetle dermatitis, Potassium permanganate, Outbreak

Introduction

Blister beetle dermatitis which is also known as Paederus dermatitis or Dermatitis linearis , is a seasonal irritant contact dermatitis caused when beetles of genus Paederus are crushed on the skin, releasing body fluids that contain vesicant pederin. We report this child due to its uncommon but dramatic presentation to both general paediatricians and practitioners needing high degree suspicion and rapid recovery upon accurate diagnosis and treatment.

Case History

A seven year old child presented with the history of rapidly evolving blisters and crusted skin lesions at the right elbow for 5 days. Initially, child was treated with topical antifungals and oral antibiotics by General Practitioner; however, lesions rapidly progressed to involve whole of right elbow without improvement. General examination revealed both crusted and blistering lesions, kissing lesions and plaques with well-defined elevated border over right anterior cubital fossa (figure:1). The lesions were painful and no other similar lesions were noticed. There were no recent infections, allergies, or medication. Upon specific inquiry, parents reported that beetles were seen in their home however, child denied any direct contact with beetles that were crushed on skin. The diagnosis of blister beetle dermatitis was clinically suspected and she received treatment with Potassium permanganate solution compresses, 1% hydrocortisone cream, topical Framycetin Sulfate and systemic Flucloxacillin. Child revealed dramatic recovery with disappearance of blisters and crusted lesions while on treatment (figure: 2). Follow up in 1 week revealed complete recovery. Health education has been arranged at public preventive sector level.

Figure: 1 Blistering, crusted and kissing lesions

Figure: 2 While on treatment

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Discussion

Blister beetle dermatitis affects the exposed areas of the body with greater frequency. Face is the most common site involved although upper limbs and neck can be commonly involved . This child had dermatitis only on right upper limb. The lesions of blister beetle dermatitis are erythematous and edematous plaques with crusts, vesicles and blisters. The striking feature is presence of "kissing lesions"[1]. Reported complications include secondary infections, post-inflammatory pigmentation, and extensive exfoliating and ulcerative dermatitis. Ocular and genital involvement is not uncommon and lesions can be triggered by contact with contaminated fingers[1].

Histopathological findings of blister beetle dermatitis include neutrophilic spongiosis and reticular degeneration of epidermis during early phase followed by confluent epidermal necrosis.

Although the reported case was an isolated event, blister beetle dermatitis is known to cause seasonal outbreaks[2] . The differential diagnosis includes allergic and irritant contact dermatitis[4], herpes simplex and zoster, bullous impetigo and phytophoto dermatitis . High degree of clinical suspicion based on characteristic skin lesions, identification of the insect and epidemiological features support accurate diagnosis[5] .

Whilst local treatment including potassium permanganate compresses and hydrocortisone can be used to treat milder dermatitis, severe dermatitis needs treatment with oral corticosteroids. Lesions usually improve in one week with residual exfoliation and pigmentation.

Public health measures are important in prevention of seasonal outbreaks. These include avoiding crushing of beetles on skin and removing them gently, avoidance of sleeping under florescent lights, use of nets for sleeping, regular sprays of insect repellants and closing of windows before switching on lights inside the house.

Conclusion

Blister beetle dermatitis is a seasonal problem. Early identification is crucial to treat and prevent complications. This case report might improve the knowledge and practice of medical officers who may have never experienced this clinical presentation.

Acknowledgement

We would like to thank Dr. Maduwantha Dissanayake, Medical superintendent, Base Hospital, Mahaoya

Conflict of interest

There is no conflict of interest in publishing this article.

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CASE REPORT

Massive splenomegaly with splenic lymphoma: A Case Report

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Introduction

Primary splenic lymphoma is a very unusual entity. According to guidelines diagnosis of Primary Splenic Lymphoma should be made when the disease is confined to spleen or at the most involves hilar lymph nodes with no recurrence of disease after splenectomy1. Herein, we present such an unusual case of low grade b- cell non hodgekin primary Splenic Lymphoma and confirmed by immunohistochemistry in a patient presenting with massive splenomegaly and hypersplenism.

Case Report

A 63-year-old male, complained of weight loss and abdominal pain. He was afebrile and physical examination revealed no palpable peripheral lymphadenopathy. He had a protuberant abdomen with a firm palpable spleen that extended below the navel. Abdominal ultrasonography and plain computed tomography scanning showed massive splenomegaly. Blood examination revealed pancytopenia. Blood picture showed peripheral consumption of blood cells. Liver and renal functions were within normal limits. Bone marrow aspiration and biopsy revealed normocellular bone marrow. Therefore, elective splenectomy was planned and performed. The operation progressed without complications. The resected spleen weighed 3.8 kg. The cut surface was almost totally effaced by a huge greywhite homogenous tumor soft rubbery in consistency. Microscopy revealed diffuse proliferation of monotonous population of large neoplastic lymphoid cells.The tumor cells were immunopositive for CD 20 and immunonegative for T cell markers. The patient responded well to standard (Cyclophosphamide, Hydroxydaunorubicin, Oncovin (vincristine), Prednisone or prednisolone) regimen and is now in full remission.

Discussion

The localized indolent lymphoma is expected to have good prognosis despite the absence of further treatment with chemotherapy. In contrast, most cases of aggressive lymphoma show disease expansion and progression,[2] requiring immediate chemotherapy. It is speculated that the high rate of perioperative mortality in massive splenomegaly could be due to rapid progression of disease and such patients should be subjected to less invasive diagnostic methods and treated immediately.

Splenic lymphoma and splenomegaly secondary to lymphoma or other hematological malignancies are often reported as a cause of hypersplenism and the cytopenias resolved after splenectomy in most cases.[3,4] Therefore ,splenectomy is useful not only for diagnosis but also for treatment of the underlying hematologic malignancy.5 It is an unusual case of primary splenic lymphoma presenting with massive splenomegaly (3.8 kg) and hypersplenism.

Conclusion

It is evident in such a critical clinical situation, clinician should keep in mind splenectomy as an effective therapeutic and diagnostic method to prevent grave complications related to disease (hypersplenism, splenic rupture).

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CASE REPORT

Recurrent parotid abscess; A Diagnostic dilemma- A Case Report

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Abstract :

Melioidosis caused by Burkholderia pseudomallei has recently gained importance as an emerging pathogen in Sri Lanka as increasing number of cases reported mainly from the north and east provinces of the country. It causes a wide spectrum of clinical manifestations like pneumonia, septicaemia, arthritis and abscess in multiple organs potentially mimicking other infections like tuberculosis which is much commoner in a country like Sri Lanka where it is endemic. We describe a 54-year-old male nursing officer who presented with recurrent parotid swelling with lymphadenopathy which was initially diagnosed as extrapulmonary tuberculosis, however poorly responding to standard anti tuberculous treatment. Further investigations isolated B. pseudomallei from parotid abscess establishing the diagnosis of Melioidosis.

Key words: Parotid abscess, Melioidosis, Tuberculosis

Introduction

Melioidosis is an infection caused by Burkholderia pseudomallei, a facultative gram negative organism, previously known as Pseudomonas pseudomallei (1). The infection is usually acquired by inoculation or inhalation of soil and contaminated water (2). Therefore certain occupations like farmers, construction workers and military personnel are at higher risk of the disease. Additionally, patients with diabetes, chronic lung, liver and renal diseases are greatly susceptible for severe infection. Globally, cases of Melioidosis have been reported most frequently from Northern Australia and Southeast Asian countries like Thailand, Malaysia and Vietnam (3). However, it has lately gained importance as an emerging pathogen in Sri Lanka over last decade (2).

This infection can induce a wide spectrum of clinical manifestations varying from acute to chronic involving multiple organs of the body (4). Therefore, melioidosis can mimic many other common infections and often called 'the great mimicker'. Therefore it has a high tendency to be misdiagnosed in clinical practice leading to delayed institution of proper management resulting a significantly high morbidity and mortality (2, 5).

Case presentation

A 54 year old male nursing officer presented initially to National hospital- Kandy, Sri Lanka with left sided facial swelling involving parotid region for one month duration. He noticed that the swelling was gradually enlarging since beginning. However, he denied associated pain, redness, fever or other constitutional symptoms. There was no facial weakness or ear discharges. His past medical history revealed hypertension, dyslipidaemia and type 2 diabetes mellitus requiring insulin therapy for twelve years with satisfactory disease control. There was no past history or contact history of tuberculosis.

An examination revealed minimally tender swelling without erythema or discrete mass in left parotid region. There was no cervical or axillary lymphadenopathy at initial presentation. However, he developed enlarged right sided cervical lymph nodes about 2 weeks later.

Initial investigations revealed white cell count 8000 with normal differential, haemoglobin 12.4 g/dL, platelets 345000/mm, sedimentation rate 34 mm/hr, C-reactive protein 8 mg/dl (normal <10). Ultrasound examination demonstrated localized collection of pus in superficial lobe of left parotid gland. However, attempt for aspiration of pus was unsuccessful, due to small collection size. Further evaluation with lymph node biopsy identified suppurative granulomatous inflammation suggesting tuberculosis. Aspiration for acid fast bacilli, tuberculous culture and GeneXpert-MTB/RIF test were negative. Moreover, chest radiograph and Mantoux test failed to reveal any abnormality. Further investigations including HIV serology, lactate dehydrogenase level (LDH), ANA, Toxoplasma antibodies, blood culture, blood picture, serum

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calcium, 24 hour urinary calcium excretion and echocardiography were within normal limits. Computerized tomography of neck, chest and abdomen showed no evidence of Lymphoma, sarcoidosis or no any other abscess. However, he was commenced on standard regimen of antituberculous therapy consisting isoniazid, rifampicin, ethambutol and pyrazinamide as a clinically diagnosed case of extrapulmonary tuberculosis.

The facial swelling and lymph node enlargement gradually resolved over 2 weeks of anti-tuberculous treatment. However, he presented again with recurrence of ipsilateral painful facial swelling associated with fever at two month of anti-tuberculous treatment. A clinical examination revealed tender erythematosus lump localized to left parotid area suggesting a parotid abscess, which was confirmed with ultrasound examination. Investigations performed at current admission noted WBC- 6700, neutrophil 67%, sedimentation rate 40mm/hr and CRP- 5.1 mg/dL. The abscess was managed surgically with incision and drainage. Pus culture yield Burkholderia pseudomallei. Serum melioidosis antibody testing using indirect haemagglutination method was reactive with a titre more than 1:1286. Together with microbiological and serological evidence the diagnosis of melioidosis was made. The anti-tuberculous therapy was withheld and he was treated with intravenous meropenem and oral co-trimoxazole according to sensitivity pattern and made a marked clinical improvement.

Discussion

Melioidosis is a disease with protean clinical manifestations ranging from chronic localized infection to acute fulminant septicaemia with disseminated infection leading to formation of abscess in multiple organs. Therefore it is frequently been misdiagnosed and mistreated for other common infections in clinical practice. Hence, it is often called 'the great mimicker' (2, 5).

Pulmonary disease is considered the most common form of meliodosis affecting approximately half of the cases (6). Radiological appearance of pulmonary melioidosis is non-specific and often similar to findings of tuberculosis or community acquired pneumonia (7). Due to strikingly similar clinical and radiological manifestations, it is often difficult to differentiate meliodosis from other infections like tuberculosis which is much commoner in countries of Indian subcontinent including Sri Lanka. Vidyalakshmi et al, published a report highlighting that a number of cases treated as for tuberculosis later diagnosed as meliodosis affecting various organs including lung, joints, spine, lymph nodes, spleen and pericardium. (8). A report by P V Kingsley et al, stated that the volume of meliodosis cases expected form Indian subcontinent is higher than reported, possibly due to under-recognition (2).

Our patient presented with recurrent parotid abscess which was considered as tuberculous in origin due to histopathological evidence of suppurative granulomatous inflammation though microbiological proof was unavailable. Though microbiological identification of Mycobacterium tuberculosis bacilli is required for definitive diagnosis of tuberculosis, it is often impractical especially in cases of extrapulmonary disease. Histopathological evidence of granulomatous inflammation often provides valuable supportive information for diagnosis of extrapulmonary tuberculosis. Therefore, it is common to empirically treat for tuberculosis as clinically diagnosed cases in countries like Sri Lanka where it is endemic, in situations where clinical manifestations are compatible with tuberculosis following exclusion of other possible aetiologies. However, it is not unusual that the diagnosis of tuberculosis is revised due to poor clinical response and proper culprit is recognized later following further investigations. Similar to our case, in the series of 22 patients reported by Vidyalakshmi et al, one case of parotid abscess melioidosis had been mistaken for tuberculosis (8).

Isolation of Burkhloderia pseudomallei is considered as the 'gold standard' for diagnosis of meliodosis (2, 9). However, culture often takes time to yield results and has low diagnostic sensitivity (9). Though Burkhloderia pseudomallei can be easily cultured, it can be under-recognized and mistaken for Pseudomonas species especially in non-endemic countries unless high degree of suspicion is maintained (9, 10) Therefore, serological markers have recently gained popularity for expedition of diagnosis. (9).

Melioidosis has preponderance for males, which could be due to higher potential for exposure due to occupational and recreational activities. Peak incidence is between 40-60 years of age, where the most co-morbidities develop. Diabetes mellitus is considered as the most common co-morbidity associated with melioidosis, though people with chronic lung, renal, liver diseases and malignancies are at higher risk of acquiring the infection (2).

Age, male sex and long standing diabetes were the identifiable risk factors in our patient.

Acquisition of Burkholderia pseudomallei through inoculation or inhalation usually occurs following exposure to soil and muddy surface water (2). Therefore, history of high risk exposures should be elicited during clinical evaluation of suspected cases. But our patient denied any significant exposure to such environment. However, it should be emphasised that the absence of exposure to soil or contaminated water or evidence of portal of entry via the skin do not rule out the disease (2). Rarely cases of hospital and laboratory acquired melioidosis have been reported (11,12). Since our patient was a nursing officer at a surgical ward, healthcare acquired melioidosis should be considered due to the absence of definite high risk exposure, though confirmation of this hypothesis would be extremely difficult.

Conclusion

Melioidosis is an infection with diverse clinical manifestations mimicking many other common infections like tuberculosis especially in countries where tuberculosis is endemic. Accurate differentiation will be limited by limited resources and expertise. Meliodosis has recently being reported in increasing incidence in Sri Lanka. Therefore, high degree of suspicion for

meliodosis should be maintained during diagnostic evaluation and follow up of unproven cases of tuberculous to avoid misdiagnosis and mistreatment.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal

Competing interest

The authors declare that they have no competing interest.

Authors' contribution

DM made the clinical diagnosis and supervised the manuscript drafting. AB, AGRM, SAL and MRAMR drafted the first manuscript, reviewed the literature and involved in direct management of the patient. All authors read and approved the final manuscript

Authors' information

DM (MD, FRCP, FCCP is a consultant respiratory physicians at Teaching hospital- Kandy. AB (MD, MRCP) and SAL (MD) are senior registrars in respiratory medicine. AGRM (MBBS) is a registrar in medicine, MRAMR is a medical officer

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CASE REPORT

Post Tuberculosis bronchiectasis patient with difficult to treat asthma (DTA), diagnosed as Allergic Broncho Pulmonary Aspergillosis (ABPA) after more than a decade of treatment failure.

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Introduction

Difficult to treat asthma (DTA) is not always asthma. Some asthmatics who have been identified a second lung pathology also can have other causes for their treatment failures. Some people who have been labeled as asthma or chronic airway disease or both need a second thought. Even though ABPM/ABPA is not uncommon to occur it is very rarely we diagnose it due to lack of facilities and busy clinic schedules. We here report a case of ABPA who had post TB bronchiectasis finally re-written her diagnosis as ABPA in addition. That ended her DTA clinic visits after treatment with steroids and anti-fungals. We would like to emphasize the need for further investigations of DTAs.

Keywords

Post TB bronchiectasis, and asthma and Allergic Bronchopulmonary aspergillosis.

Case history

Previously healthy female executive in banking sector with two children, was had developed cough with sputum, wheezing and dyspnoea 15 years ago when she was 50 years old. She was started treatment as bronchial asthma after diagnosis with diurnal variation and peak flow variability testing. She was treated with beta agonists and steroid inhalers. Initially she responded to the treatment. But cough, wheezing and sputum production as well as her lung functions were deteriorated with FEV1 of 64%, FEV1/FVC ratio of 68% and PEFR of 26% of the predicted.

She did not have fever or other features of infections initially. She was producing sputum every time which affected her activities a year later. She was found to be positive for tuberculosis and treatment was initiated and completed. Unfortunately her symptoms were not improved even after sputum smears became negative. She was found to be having bronchiectasis with the computed tomography. But she was further treated as difficult to treat asthma without a good response for nearly for more than a decade. Her exercise saturations were dropped during this time period. She was also treated for respiratory tract infections with identified bacterial isolations with Pseudomonas infections for 3 times, Coliforms 3 times, Moraxella 2 times and Klebsiella once.

She was referred for us for management of difficult to treat asthma. (DTA) We initially evaluated for co-morbidities, treatment compliance and steroid resistance and those were excluded. Then investigated for ABPM. Previous chest x-rays were not available but old HRCT-chest film 10 years ago reported as old Tuberculosis changes. Patchy and most predominantly peripheral bronchiectasis. Few bronchioles with patchy consolidation and tree in bud appearance. Focal pleural thickening in bilateral apices and in the chest wall. Absolute Eosinophilic count was 910/uL, skin prick test for aspergillus 3mm, candida 4mm, total IgE initially was 586ng/ml and repeat test showed 1111ng/ml. Aspergillus fumigates IgG initially negative came as 2.59 kua/L (cut off< 0.35).

She was started on prednisolone 30 mg daily for 14 days and tapered over 3 months with Itraconazole 400mg for 16 weeks and 200mg for 16 weeks. She responded clinically in her asthma as well as sputum production and her IgE levels came down to 366ng/ml in 6 months.

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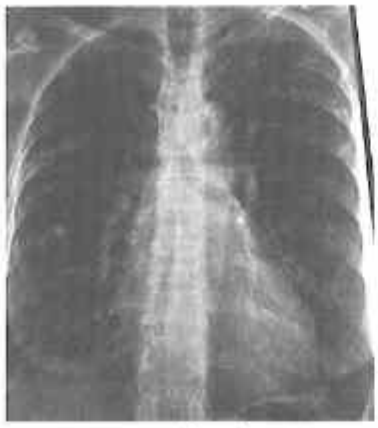

Figure 1. Multifocal opacities

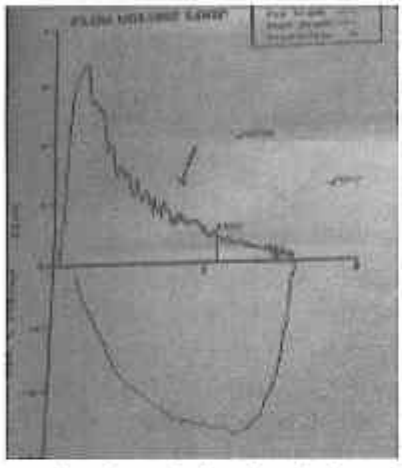

Figure 2. Flow volume loop showing chronic airway obstruction

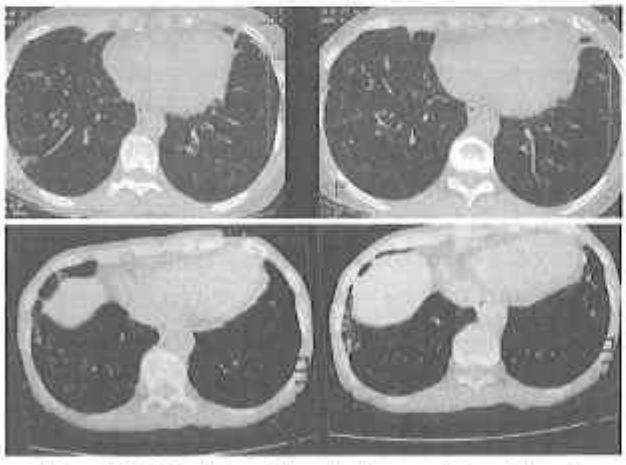

Figure 3. HRCT with peripheral and central bornchiectatic changes 12 years ago (above) and now. (below)

Discussion

Worsening of asthma or difficult to control asthma (DTA) is a common presentation to medical clinics as well as to respiratory clinics. [1] Causes of DTA can be divided into real and non-real etiologies. Non-real causes are due to (1) wrong diagnosis (2) Associated comorbidites that worsen bronchial asthma such as chronic sinusitis, gastro-esophageal reflux disease, sleep apnea syndrome ,etc. and more commonly missed (3) Poor compliance with treatment, the presence of allergens at home or work. On the other hand steroid unresponsiveness, pseudo-steroid resistance are also possible but rare. These patients are having persistent symptoms despite high doses of inhaled steroids and other "nonsteroidal" asthma therapy. [2]

If we exclude these conditions, we would be left with Asthma overlap syndrome, peripheral bronchiectasis or allergic Bronchopulmonary aspergillosis/mycosis (ABPA/ABPM). [3,4,5] One entity of ABPA is severe asthma with fungal sensitization where the fungal infection is present in the patient for the condition but diagnostic criteria are not fulfilled for ABPA. [6] Allergic bronchopulmonary mycosis is included aspergillosis in it but there are many patients presented with fungi other than aspergillus grown inside the lung. [7]

K.F. Hinson first described allergic bronchopulmonary aspergillosis (ABPA) in 1952 [8] ABPA is a condition caused by a hypersensitivity reaction to Aspergillus fumigates antigens especially in susceptible hosts like those with asthma or cystic fibrosis due to repeated inhalation of Aspergillus spores. Type I hypersensitivity reaction involvement is the main pathology responsible but both type III and type IV hypersensitivity reactions have also been seen. A polyclonal antibody response leading to elevated levels of total IgE, Af-IgE, and Af-IgG antibodies are seen in the serum. Patients with HLA-DR2 and HLA-DR5 genotypes are at risk for ABPA, while HLA-DQ2 is protective against ABPA. Five stages of ABPA have been described: (i) acute (ii) remission, (iii) exacerbation, (iv) corticosteroid-dependent asthma, (v) fibrotic lung disease. [9]

Several criteria had been introduced in order to diagnose ABPA. First successful one was in 1977 called as Rosenberg-Patterson Criteria which divided into major and minor criteria. The major criteria consisted of patients diagnosed with asthma, the presence of pulmonary opacities on chest radiographs, immediate cutaneous reactivity to Af, the serum IgE being more than 1000 IU/mL, precipitating antibodies against Af, peripheral blood eosinophilia, and central or peripheral bronchiectasis with normal tapering of distal bronchi. The minor criteria consisted of finding golden brown sputum plugs in expectorant, a positive sputum culture for Aspergillus species, and a late (arthus-type) skin reactivity to Af. [10] The International Society for Human Animal Mycology (ISHAM) working group in 2013 developed a new criteria for ABPA. It was divided into predisposing conditions like asthma or cystic fibrosis. The next section was the obligatory criteria which consisted of two points, both of which need to be present. They are an immediate cutaneous reactivity to Af or elevated IgE levels directed against Af, and elevated total IgE levels more than 1000 IU/mL. The other criteria consisted of three points, in which two of three must be present. They are the presence of IgG antibodies against Af, the presence of pulmonary opacities on chest radiograph, and lastly an eosinophil more than 500 cells/μL in steroid naive patient. [11] Our patient fulfilled both Rosenberg –Petterson and ISHAM criteria.

It can further be subdivided into three catergories ABPA-S: ABPA-seropositive; Patients with asthma that meet minimum requirements of ABPA but do not have central or

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peripheral bronchiectasis ABPA-CB: ABPA-central bronchiectasis; Patients who meet the minimum criteria for ABPA and also have central bronchiectasis SAFS: severe asthma associated with fungal sensitivity; Severe asthma (British Thoracic Society step 4 or worse), Exclusion of ABPA (total IgE <1000 IU/mL), Evidence of sensitisation to one or more fungi, by skin prick test or RAST test.

There are four goals of treatment in ABPA. They are to control symptoms of asthma or cystic fibrosis, to prevent or treat pulmonary exacerbations of ABPA, to reduce or remit pulmonary inflammation, and to reduce progression to end-stage fibrotic or cavitary disease. But unfortunately, a delay in treatment for ABPA can lead to complications like pulmonary fibrosis, bronchiectasis with chronic sputum production, and severe persistent asthma with loss of lung function. Despite the sub classification of the patient, the treatment doesn't change significantly. Corticosteroids still remain the main drug therapy used for ABPA regardless of classification. [12]

Systemic glucocorticoids are the mainstay of treatment commonly used. Oral Prednisolone 0.5mg/kg daily for 14 days converting to every other day regimen and further tapering over 3 months. Some patients may need higher doses due to severity of the asthma. [13] Although systemic steroids alone can be used for the treatment new guidelines recommend combination of systemic steroids along with anti-fungals for better results. [14] Itraconazole 200mg twice daily for 16 weeks and 100mg twice daily for further 16 weeks is the usual dosage. [15] Use of itraconazole is limited by issues of poor absorption and bioavailability, pharmacogenetic variability in cytochrome P450 enzyme-mediated hepatic metabolism and toxicities . Therefore, therapeutic drug monitoring has been recommended. [16] Newer oral triazoles with excellent anti-Aspergillus activity (voriconazole and posaconazole) have also been reported as beneficial in the treatment of ABPA, particularly in patients with CF. [17] Amphotericin B also has been used for treatment. Omalizumab, a monoclonal antibody against IgE, has been used in ABPA treatment. Reviews of ABPA cases, including 17 bronchial asthma cases that were treated with omalizumab, have shown beneficial effects such as reduced symptoms, decreased exacerbation rates, and corticosteroid-sparing effects. [18] Even though the role of total and specific IgE in monitoring treatment responses in ABPA remains questionable, clinical response in addition to IgE levels measurement is used to monitor the treatment success. [19]

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CASE REPORT

A Case of Anti-NMDA Receptor Encephalitis Without Malignancy

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Abstract :

Anti NMDAR encephalitis is an autoimmune encephalitis, which is caused by auto antibodies against N-methyl-D-aspartate receptors. It is the commonest type of autoimmune encephalitis and is mostly seen in young adults with a female predominance. The exact incidence of the disease is unknown. However, according to previous case reports and series, it is often misdiagnosed or under-diagnosed globally as well as nationally.

Anti NMDAR encephalitis is often associated with ovarian teratoma in females (52%), and characteristically presents with neuropsychiatric symptoms, including change in behavior, psychosis, seizures, memory and cognitive deficit, abnormal movements, dysautonomia and decreased level of consciousness. Its' mortality is around 5-7% if left untreated. Early treatment with immunotherapy and resection of associated malignancy carries good prognosis.

Although there are many case reports published in other countries, very few case reports published from Sri Lanka up to date. The main reason for that seem to be under diagnosis and misdiagnosis of the syndrome. The incidence of autoimmune encephalitis in Sri Lanka has been postulated by a study done by T.Chang et al[9], but the exact incidence or prevalence of anti-NMDAR encephalitis in Sri Lanka is still unknown. It raises the need for reporting of these cases.

We report this rare case of anti-NMDAR encephalitis from Kegalle, Sri Lanka, in a 13-year-old girl which was not associated with malignancy and responded well to immunotherapy.

Keywords

NMDAR encephalitis, ovarian teratoma, immunotherapy, plasma paresis.

Introduction

The predicted incidence of all types of encephalitis is approximately 5 to 8 cases per 100,000, and in 40 to 50% of the cases, the cause is unidentified [1].

Infections are the most frequently recognized causes of encephalitis. However, in recent years an increasing number of non-infectious, mostly autoimmune, encephalitis cases have been reported [2]. A study from a center that is specifically concerned with the epidemiology of encephalitis showed that the frequency of the most common form of autoimmune encephalitis, the type with antibodies against the N-methyl-D-aspartate receptor (NMDAR), surpassed the frequency of any individual viral cause of encephalitis in young patients [3]. And in one retrospective study, anti-NMDAR encephalitis accounted for 1% of all admissions of young adults to an intensive care unit [4].

Anti-NMDAR encephalitis affects predominantly children and young adults (median age, 21 years), with a female predominance (4:1) that becomes less evident after the age of 45 years. Further, anti-NMDAR encephalitis is often associated with ovarian teratoma in females (52%) 12 years or older, than in males and younger females [5]. Initially it was described as a paraneoplastic syndrome affecting young women with ovarian teratomas, but anti-NMDA-R encephalitis is also associated with mediastinal teratomas, sex-cord stromal tumors, small-cell lung cancer and testicular teratomas [5].

The classical presentation of this syndrome is a prodromal phase of fever and headache followed by prominent psychiatric

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manifestations including anxiety, agitation, hallucinations, delusions, bizzare behavior, with neurological symptoms of insomnia, memory deficit, seizures, dyskinesias, decreased level of consciousness, stupor with catatonia and reduce speech or mutism with autonomic instability (hypoventilation, fluctuation of blood pressures, tachycardia, bradycardia and hyperthermia). The diagnosis is based on the following criteria [6]. A diagnosis of probable anti-NMDA receptor encephalitis is made when all of the following three criteria have met. 1. Rapid onset (<3 months) of at least four of the six following major groups of symptoms: Abnormal (psychiatric) behavior or cognitive dysfunction, Speech dysfunction, Seizures, Movement disorder, dyskinesias, or rigidity/ abnormal postures, Decreased level of consciousness, Autonomic dysfunction or central hypoventilation. 2. At least one of the following laboratory results: Abnormal EEG (focal or diffuse slow or disorganized activity, epileptic activity, or extreme delta brush) or CSF with pleocytosis or oligoclonal bands. 3. Reasonable exclusion of other disorders. A diagnosis of definite anti-NMDA receptor encephalitis is made with positive IgG anti-GluN1 antibodies in the presence of one or more of the six major groups of symptoms described above, after reasonable exclusion of other disorders.

Treatment recommendations are based on retrospective series and expert opinion, because of the paucity of adequate clinical trials to make safe recommendations. The current practice includes immunotherapy and excision of the tumor where relevant. First line of immunotherapy is glucocorticoids and immunoglobulins or plasma exchange. The second line of therapy includes rituximab and cyclophosphamide.

According to a previous study of 577 patients with anti-NMDAR encephalitis, 53% of patients had improvement within 4 weeks of first line therapy and 81% had partial recovery at 24 months. The relapse rate was 12-35% and was usually associated with discontinuation of immunotherapy. The predictors of good out comes were early treatment with immunotherapy and lack of ICU admission [5].

We report a case of anti-NMDAR encephalitis in 13-year-old girl without ovarian teratoma who responded to immunotherapy with MRS functional class of 0-2 on discharge

Case history

A 13-year-old girl from a rural area was referred by a psychiatrist with a history of confusion, auditory hallucinations, reduced level of consciousness and abnormal movements. She was apparently healthy until 1 week prior to the admission. Initial symptoms were auditory hallucination, abnormal behavior and agitation. Then abnormal orofacial and limb dyskinesia appeared over a period of one week and she gradually became mute. On admission, she was in status epilepticus. On examination, she was subconscious (GCS of 10/15, V-1, M-5, E-4), febrile, tachycardic, and catatonic. There were dyskinetic movements involving her left hand and orofacial region. The computerized tomography of brain was normal. Inflammatory markers were normal. CSF analysis was normal including absent oligoclonal bands and negative viral serology for HSV, varicella, enterococcous and Japanese encephalitis. EEG showed diffuse theta activity suggestive of encephalopathy. Epileptiform discharges or delta brush activity was not seen. The diagnosis of Anti-NMDA-R encephalitis was confirmed by detection of antibodies against NMDA receptors in CSF. Ultra sound scan of the abdomen and pelvis was normal.

She was pulsed with intravenous methyl prednisolone on day two of admission together with antiepileptic drugs. Automatism and seizures persisted despite treatment with steroid and she underwent plasma paresis on day seven of admission. Despite undergoing eight cycles of therapeutic plasma paresis her response to treatment was poor. She responded well to intravenous immunoglobulins which were subsequently started and recovered within 4 weeks of immunotherapy.

The patient was managed in the intensive care unit (ICU) with invasive ventilation and needed tracheostomy. She was cared by a multidisciplinary team and her ICU stay was complicated by a chest infection with Acinetobacter, and tracheal stenosis. She was discharged after 60days of hospital stay and at the time of discharge, the Barthel index was 14/20.

Discussion

Anti-NMDAR encephalitis is a rare type of autoimmune encephalitis. In a normal subject NMDA-receptors are found in the central nervous system synaptic transmission. NR1 and NR2 subtypes of NMDA receptor bind to glycine and glutamate respectively to interact with intracellular messengers and localizations. In patients with anti-NMDA-R encephalitis, auto antibodies (IgG) directed towards the NR1(also known as GluN1) of NMDA-receptors circulate within CSF [7]. These receptors are predominantly present in the hippocampus and less in the forebrain, spinal cord, basal ganglia and cerebellum. These antibodies affect areas responsible for personality, memory, movement and autonomic control, giving rise to syndrome of personality changes, cognitive impairment, dyskinesias, brady arrhythmias and hypoventilation [10].

This case of anti-NMDAR encephalitis in a previously healthy 13-year-old girl reveals many important points of discussion. With the availability of antibody testing, this syndrome is increasingly recognized. According to one study, it was found in 20% of patients with encephalitis in a tertiary care center [11]. And it accounts for 86% (6/7) of patients who had "encephalitis of unknown origin" in a single center retrospective study [12]. It had been found that autoimmune encephalitis accounts for 4.76% of patients presenting with encephalitis in Sri Lanka [9].

The classical presentation of this syndrome is a prodromal phase of fever, headache followed by prominent psychiatric manifestations including anxiety, agitation, hallucinations, delusions, bizarre behavior, with neurological symptoms of insomnia, memory deficit, seizures, dyskinesias, decreased level

of consciousness, stupor with catatonia, reduce speech/mutism with autonomic instability (hypoventilation, fluctuation of blood pressures, tachycardia, bradycardia and hyperthermia) [6]. Patient may present to a psychiatrist with psychosis as in our patient. Therefore, a high index of suspicion is required to detect these cases. Especially, when the patient is having psychosis with fever. And having seizures during initial phase of illness should raise the suspicion of NMDAR encephalitis over other autoimmune encephalitis. The majority of patients have had complex and generalized seizures when compared to focal seizures in HSV encephalitis [10]. And it should always be included in the differential diagnosis of encephalitis of unknown cause. Other differential diagnoses of viral encephalitis, bacterial meningitis, prion disease, primary or secondary brain tumors, Hashimoto's encephalopathy and vasculitis should also be considered, which were negative in our patient.

Diagnosis of anti-NMDAR encephalitis is based on the above clinical syndrome, supported by CSF lymphocytic pleocytosis or oligoclonal bands (CSF can be normal as well), EEG evidence of epileptic activity, Brain magnetic resonance imaging (MRI) which is often normal or showing transient fluid attenuated inversion recovery (FLAIR) or contrast-enhancing abnormalities in cortical (brain, cerebellum) or subcortical (hippocampus, basal ganglia, white matter) regions. While positron emission tomography (PET) showing a characteristic increase in the frontal-occipital gradient of cerebral glucose metabolism, which correlates with disease severity [6]. And the diagnosis is confirmed by the presence of immunoglobulin (IgG antibodies) to GluN1(NR1) subunit of the NMDA receptor in the cerebrospinal fluid or serum. Detection of IgG antibodies against GluN1 in CSF is highly specific and sensitive for NMDAR encephalitis than serum levels [12].

Our patient had a typical clinical presentation, other supportive investigation results together with anti NMDAR antibodies in CSF confirming the diagnosis of anti-NMDAR encephalitis. The typical association of ovarian teratoma was not found in our patient neither viral serology. However, further investigations to exclude paraneoplastic syndrome is needed, including contrast enhanced computerized tomography (CECT) of the abdomen and pelvis.

There are no randomized data on treatment and it is an individualized therapy according to the observational studies. According to expert opinion and observational data treatment includes intravenous methylprednisolone and either immunoglobulin or plasma exchange. The difference in efficacy between immunoglobulin and plasma exchange is still unknown [6]. Therefore, she was empirically treated with intravenous methylprednisolone 1g daily on second day of admission for five days after excluding infection. She had continuous seizures with deterioration of consciousness. On day 8 we offered her plasma exchange every other day for 8 cycles. However, the response was poor and intravenous immunoglobulin 400mg/Kg per day for five days was given after 8 cycles of plasma exchange. She improved gradually over 46 days of ICU stay with supportive care. We offered her multidisciplinary care consisting of physician, neurologist, intensivist, psychiatrist, microbiologist, virologist, transfusion physician, ENT surgeon, nutritionist, physiotherapist, nursing staff and other supporting staff. Our patient had significant recovery (MRS-2) on discharge at 8 weeks as expected from previous data.

Although rare, anti NMDA receptor encephalitis needs to be considered in young patients with encephalitis. Especially where the psychiatric manifestations and seizures occurring in early phase of the illness. And it is not always associated with malignancy. Diagnosis and management require multidisciplinary approach. Early treatment carries good prognosis. Delay in immunotherapy and prolong ICU stay are poor prognostic factors as described above.

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CASE REPORT

A Patient Presented with Intractable Vomiting Found to Behaving a Parathyroid Adenoma: A Case Report

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Abstract :

Primary hyperparathyroidism (PHPT) is most often due to parathyroid adenomas. The symptoms of hyperparathyroidism are mostly due to the effects of hypercalcemia. This patient presented to us with intractable vomiting for 2 months which was difficult to control with antiemetics. Following surgery her serum calcium levels came back to normal and her vomiting also settled completely. However, a patient with hypercalcemia to present with intractable vomiting is an uncommon presentation.

Keywords

Intractable vomiting, hypercalcemia, primary hyperparathyroidism, parathyroid adenoma

Introduction

PHPT can be due to a solitary parathyroid adenoma (85%), generalized hyperplasia of the parathyroid (15%) or a parathyroid carcinoma (5%). While majority of parathyroid proliferative disorders present with sporadic disease, the possibility of multiple endocrine neoplasia type 1 or type 2A syndromes should always be kept in mind. Familial hypocalciuric hypercalcemia and Lithium induced hypercalcemia are the other causes for raised serum calcium with raised parathyroid hormone.

Among patients with hypercalcemia, PHPT accounts for 51% and malignancy for 31% among ambulatory patients. (1) However, malignancy accounts for majority of the hypercalcemic patients among in-hospital patients. (1) The remaining cases of high calcium are caused by many different conditions including vitamin D related problems, disorders associated with rapid bone turnover, granulomatous conditions, thiazides or renal failure. (1) although hypercalcemia is a recognized cause for vomiting, patients with hyperparathyroidism presenting with the predominant complain of vomiting is something uncommon.

Case Presentation

This 46 years old previously healthy house wife presented with the complain of intractable vomiting since 2 months. Vomiting was insidious in onset and the frequency of vomiting has gradually increased to one two episodes for a day over the first two weeks and was continuing so far. Patient was initially managed as having a gastroenteritis, but has not responded to the medicine given. Despite been on regular antiemetics, her vomiting has never been under control. She also complained of a mild epigastric burning pain. She did not complain of vertigo, tinnitus or reduced hearing. There was no complain of headache also. She was opening her bowel regularly.

She was averagely built and appeared dehydrated. There was no papilledema. She was hemodynamically stable and rest of her examination was unremarkable.

Her hemoglobin level was 8.7g/dl. Anemia work-up was suggestive of anemia of chronic disease. Thyroid functions, liver functions and renal functions all were normal. CRP count was <2mg/dl. Urine full report revealed 6 to 7 red blood cells and only 1 to 2 puss cells. The urine culture also did not show any growth. Serum albumin level was 4.3g/dl. ABG did not show any acid base disturbance.

Upper gastrointestinal endoscopy was arranged due to the predominant complain of vomiting which was normal.

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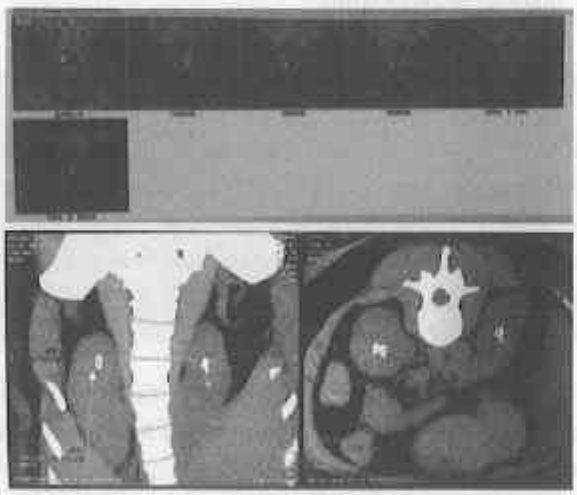
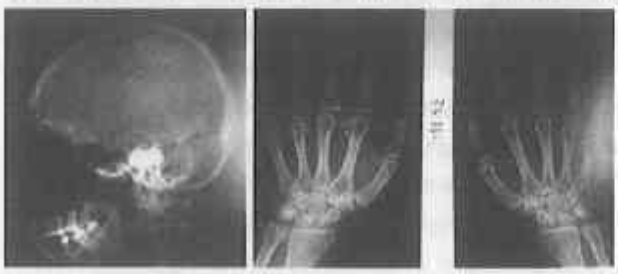
Serum Calcium level was 13.06mg/dl. Repeated serum calcium levels on the subsequent days were 14.8g/dl and 13.9g/dl. Her intact parathyroid hormone level was 160pg/ml. Inorganic phosphate was reduced to 1.7mg/dl. 24-hour urine calcium excretion was estimated as 252mg. Urine calcium to creatinine ratio was 0.92 which showed an increased urinary calcium excretion. The laboratory investigations were compatible with the diagnosis of primary hyperparathyroidism. Vitamin D level was 40.08 ng/ml which was normal.

CECT showed a right side paratracheal mass at the level of the thyroid gland. Ultra sound of the neck did not show any thyroid enlargement. CECT abdomen also showed bilateral non obstructive renal calculi but did not show any pancreatic calcification. 99m-Tc sestamibi scan showed an increased uptake in the region of the right inferior lobe of the thyroid bed suggestive of a parathyroid adenoma.



Further to the imaging, tumor markings such as CA-125 and carcinoembryonic antigens were done which were normal. Clotting profile was normal with INR of 1.01 and an APTT of 27seconds. Her 2D Echo was normal. However, the ECG showed a sinus bradycardia. X rays of the hands and skull were performed which showed osteolytic lesions. Dexa scan of the distal one third of the hands was done which showed a T score of -3.1 and a Z score of -2.2



Hypercalcemia was managed with hydration, intravenous Lasix and intravenous Pamidronate. A 1.2 cm sized parathyroid adenoma was removed and the diagnosis of parathyroid adenoma was histologically confirmed. The tumor cells were immunohistochemically positive for parathyroid hormone. Serum calcium levels were monitored post operatively which remained in the normal range. Her vomiting which did not respond to the antiemetics gradually settled when calcium levels came back to normal.

Discussion

In our patient who presented with 2 months of vomiting, vestibular pathology, raised intracranial pressure and gastrointestinal obstruction were unlikely according to the clinical findings. A diagnosis of vomiting induced by hypercalcemia due to PHPT was made. Hyperparathyroidism increase serum calcium by accelerating bone resorption, increasing intestinal absorption of calcium and decreased renal calcium excretion.

Vomiting due to hypercalcemia is mediated via a direct effect of calcium on the gastrointestinal system as well as due to its central effects. (3) Cytoplasmic calcium will release emetic mediators at the brain stem emetic loci. Cytoplasmic calcium will also release emetic mediators in the gastrointestinal tract that will stimulate chemoreceptors that are located in the intestinal wall and the corresponding signaling pathway to the vomiting center. Cytoplasmic calcium concentration is a dominant factor in vomiting induction since it determines the amount of neurotransmitter release coupled with receptor activation as well as post receptor activation. (2)

Acid reflux is seen in 62% of parathyroid patients. (3) calcium causes increased acid production and it can be so severe that it causes ulcers that can bleed. The prevalence of vomiting among parathyroid patients has not been studied previously though there are reported cases who have presented with intractable vomiting.

Conclusion

Patients with PHPT could present with predominant gastrointestinal symptoms. However, the diagnosis of PHPT could easily be missed because the gastrointestinal manifestations are often overlooked and therefore, serum calcium levels must be included in the routine workup for abdominal symptoms.

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CASE REPORT

Severe Autoimmune Haemolytic Anemia Associated with Non-Respiratory Tract Mycoplasma Infection

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Abstract :

Mycoplasma pneumoniae is a common respiratory pathogen causing upper airway infection to severe atypical pneumonia and it has variety of extra pulmonary manifestations. Commonest extra-pulmonary manifestation is autoimmune haemolytic anemia and it is usually associated with respiratory tract infection. Here we report a case 34 year-old-lady who presented with severe autoimmune haemolytic anemia associated with non-respiratory tract Mycoplasma infection. She made uneventful recovery with antibiotics, intravenous immunoglobulins and short course steroid.

Keywords: Mycoplasma pneumonia, and atypical pneumonia

Introduction

Mycoplasma pneumonia is a common respiratory pathogen responsible for a variety of infectious manifestations, ranging from upper airway infection to severe atypical pneumonia. Extrapulmonary presentations associated with infection by Mycoplasma Pneumoniae include hematological, dermatological, neurological, musculoskeletal, renal, cardiac and gastrointestinal manifestations. Hematological complication includes hemolytic anemia, thrombocytopenia, thrombotic thrombocytopenic purpura, and hemophagocytosis and is related to cross-reaction of antibodies. We report a case of severe autoimmune hemolytic anemia due to Mycoplasma pneumoniae infection without respiratory tract involvement.

Case History

A 34-year-old woman presented with a history of fever of 3 days duration associated with chills, exertional tiredness and undue fatigability. She had no salient findings on history or clinical examination suggestive of respiratory lower infection or cardiac pathology. She was diagnosed with hypothyroidism and dyslipidemia 5 years ago and has been on regular clinic follow up. she had been treated with oral steroid for biopsy proven minimal change nephrotic syndrome in 2012 for 6month duration and achieved complete remission.

On admission, she was pale and icteric. Her vitas were stable except high grade fever and tachycardia. Rest of the clinical examination was unremarkable. Her initial blood investigations revealed a haemoglobin of 5.7g/dl with normocytic normochromic indices, high reticulocyte index, unconjugated hyperbilirubinemia (140μmol/L) and high LDH (890U/L). She was initially treated with few units of warmed packed cell transfusions along with antibiotics (meropenam and clarithromycin).

Further evaluation confirmed the diagnosis of autoimmune hemolytic anemia as evidenced by positive direct antiglobulin test for C3d and IgG and highly positive cold agglutination titer. Subsequently, she was initiated with three days course of IV immunoglobulin and short course of oral steroids.

At the meantime, she underwent extensive evaluation to identify the cause for her autoimmune haemolytic anaemia and found to raising titer of Mycoplsma pneumoniae IgM antibody from 1:80 on day 6 to 1:640 on day 10(Ref <1:40).

Other possible infective etiologies were excluded by testing antibody to EBV, CMV, Hepatitis C, Hepatitis B, and HIV and VDRL. Antinuclear antibody, rheumatoid factor and anti-CCP antibody were negative. Her Chest X-ray and HRCT chest didn't reveal any lung lesions suggestive of pulmonary involvement.

She started to show clinical improvement after few days of treatment and she was sent home on day 14 with a haemoglobin of 8.8g/dL.

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On review at two weeks, she was asymptomatic with normal vitals and laboratory results.

Discussion

The diagnosis of autoimmune hemolytic anemia is usually established based on evidence of hemolysis and positive DAT and spherocytosis may be present as a result of cell injury. In 50-70% of Mycoplasma pneumonia infections, hemolysis occurs due to cold reactive antibodies IgM and cold agglutinins are formed against erythrocyte I antigen. The majority of erythrocyte destruction takes place extravascularly as complement coated erythrocytes are phagocytosed by reticular endothelial cells.1,3

Post Mycoplasma pneumoniae pneumonia associated haemolytic anemia is usually self-limiting and most patients recover with supportive care.3,5 Antibiotics are likely to be limited value; however, treatment of underlying mycoplasma infection has been associated with more rapid resolution of the hemolytic process.5,6 Cold avoidance and blood transfusions by using in-line blood warmer at 37°C could be beneficial to reduce the risk of transfusion related hemolysis.6,7

The use of intravenous immunoglobulin has been proven to be beneficial in inhibiting the process of hemolysis until spontaneous antibody clearance occurs.8 Corticosteroids, alkylating agents, azathioprine, interferon, and purine nucleoside analogs are widely used for treatment of primary cold agglutinin disease.6 Corticosteroids, cytotoxic drugs, and plasmapheresis are of questionable value in secondary disease but may be attempted in refractory cases.5

There are several case reports has been published with rare presentations of Mycoplasma pneumoniae infection including thrombotic events, renal involvement etc. 1,2 Our case is also one of the rare presentation of Mycoplasma pneumoniae infection associated cold antibody hemolytic anemia without clinical and radiological evidence of pulmonary involvement.

Conclusion

Mycoplasma pneumoniae infection is known to cause wide variety of complications. Cold antibody hemolytic anemia is the commonest complication and treatment of this condition needs supportive care and antibiotics. IV immunoglobulin has proven value on hemolysis but corticosteroids, plasmapheresis and cytotoxic drugs are of doubtful value, but may be tried in refractory cases.

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CASE REPORT

Glanzmann thrombasthenia in pregnancy

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Abstract :

Glanzmann's thrombasthenia is a very rare, autosomal recessive bleeding disorder characterized by a severe reduction of platelet aggregation which predisposes a patient for potentially life-threatening bleeding episodes. We describe a case of primiparous pregnant mother. A multi-disciplinary care method was used to plan a care plan for the peri-operative management with optimal outcomes.

Keywords:

Glanzmann's Thrombasthenia, Pregnancy, Platelet Dysfunction, Cesarean Section, HLA matched platelets transfusion..

Introduction

A Swiss pediatrician Dr Glanzmann first described thrombasthenia in 1918, when he observed purpuric bleeding in patients with normal platelet counts. It has the prevalence of less than 1 in 1,000,000. The incidence is more in families with consanguinity and predominates among certain ethnic groups such as Arab populations, Jordanian nomadic tribes, Iraqi Jews, French gypsies, and individuals from southern India [1].

Case History

A 26-year-old primigravida followed to the obstetric unit with the collaboration of haematology team. She developed prolonged bleeding following a minor injury when she was a one-year-old. However, the diagnosis of Glanzmann's thrombasthenia was arrived at her 15-year age following menorrhagia. The anti-platelet antibodies to GP IIb-IIIa were negative.

The context pregnancy was uncomplicated. She remained normotensive, and the fetus grown appropriately for its gestational age. She was admitted at 38 weeks of gestation for confinement. We planned elective caesarean section under general anesthesia in a multidisciplinary discussion involving obstetrician, Haematologist and Anaesthetist. The patient's HLA-matched platelets were prepared. She was transfused with one adult unit of HLA-matched platelets 30 minutes prior to the caesarean section. She was administrated 10 units of oxytocin and 1 gm tranexamic acid intravenously soon after the baby was born. Intraoperative estimated blood loss was 150-200 ml. Further, a 400 mg of misoprostol was administrated rectally. We observed her in the intensive care unit for 48 hours. She remained stable post-operatively. We also observed the baby for bleeding manifestation in the neonatal care unit for 72 hours. We discharged both mother and baby on fifth post- operative day in a stable condition with oral tranexamic acid for two weeks to the mother.

Discussion

Glanzmann's thrombasthenia is a congenital bleeding disorder. It is an autosomal recessive disorder characterized by a severe reduction in or absence of platelet aggregation because of qualitative or quantitative defect of platelet receptor GPIIb/IIIa required for platelet aggregation. The gene for GPII—IIIa is carried on chromosome 17 in humans so it affects men and women equally. At the present time, 38 mutations in GPIIb and 25 mutations in GPIIIa have been recorded.

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The disease can be classified: type 1 (individuals have less than 5% of normal GP IIb–IIIa levels), type 2 (10-20% of normal GP IIb–IIIa levels) and type 3 (levels of GP IIb–IIIa are normal but there is functional inactivity). [1,2]

Affected patients often present with symptoms in their infancy and childhood with prolonged bleeding following an episode of minimal bruising. The most common manifestations are mucocutaneous such as epistaxis, purpura, gingival bleeding and menorrhagia [3]. Even though, gastrointestinal, intracranial and genitourinary tracts bleeding are fewer common sites of bleeding [5], the death following bleeding is about 5-10%; Mostly because of severe unprovoked intracranial or gastrointestinal bleeding [4].

As it does not affect fertility in a woman with this condition, the pregnancy is not uncommon, but an association is rare. Parturition with this condition poses a risk of severe early and delayed postpartum haemorrhage and may occur up to 20 days following delivery [5]. Severe postpartum haemorrhage has been treated effectively using large doses of uterotonic, plasmapheresis followed by platelet transfusions and recombinant factor VIIa [6,7].

The main fetal risk arises from the presence of maternal HPA antibodies to platelet glycoproteins, classically IIb–IIIa in Glanzmann thrombasthenia. Antibodies are likely to develop during exposure of fetal platelets. Maternal antibodies can cross the placenta, causing fetal thrombocytopenia, with a risk of subsequent fetal intracranial haemorrhage.

Leticee et al. published a case series of eight women with type 1 Glanzmann thrombasthenia and GP IIb–IIIa antibodies. Of the eight babies, two died in utero secondary to intracranial haemorrhage. When an affected patient with Glanzmann thrombasthenia develops any bleeding episode, the goal of treatment is to control bleeding episodes. It describes several treatments modalities.

Platelet transfusion is the first line of standard therapy. However, approximately 15–30% of patients become refractory to platelet transfusion or develops antibodies to GPIIb–IIIa and/or HLA antibodies [8].

Factor VII to treat bleeding episodes and for the prevention of bleeding during surgery or invasive procedures in patients with Glanzmann's thrombasthenia with antibodies to GPIIb–IIIa and/or HLA, and with past or present refractoriness to platelet transfusions.

Desmopressin (DDAVP) may shorten bleeding time in patients with type 2 only, but there is no notable clinical efficacy.

Oral contraceptives can regularize menstrual cycles and reduce bleeding.

Plasmapheresis, using Protein-A sephorose to restore platelet efficiency, has been used to remove antibodies in these patients. It is, however, only available in a few specialists' centers and is incongruous with routine care. It is labor intensive and requires adequate venous access. It is not effective in active bleeding [10].

Other Treatments

Compression, gelatine sponge or gauze, antifibrinolytic agents such as tranexamic acid or topical thrombin can control bleeding episodes [11].

In conclusion

management of Glanzmann thrombasthenia complicating pregnancy gives significant challenges for both the mother and fetus. The multidisciplinary team consisting Obstetrician, Haematologist and Anaesthetic is essential to ensure optimal pregnancy outcome.

Acknowledgement

We thank to Dr M.Mathanalagan, consultant anesthetists, Teaching Hospital Batticaloa, for his tremendous help and support to provide the clinical care to this pregnant mother.

Declaration of conflicting interests

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Ethical approval

We obtained written consent from the patient for the publication.

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CASE REPORT

Fetal Ovarian Cyst

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Abstract :

Fetal ovarian cysts are the common intra-abdominal cystic lesions detected antenatally. In utero hormonal stimulation is considered being the aetiology for its occurrence. This is a case of fetal ovarian cyst and its management during a postpartum period with a review of the available literature. Antenatal ultrasonography revealed of a septate cyst 6.2 cm x 5.0 cm within the fetal abdomen suggestive of ovarian cyst in 36-week gestation. She had a vaginal delivery at 40 weeks of gestation. We found the baby to have septate ovarian cyst measuring the size of 7 x 6.9 x 5.8 cm on the second post-natal day ultrasound scan. It extends from pelvis to left hypochondrium. Because of abdominal extension they performed ovarian cystectomy through a pfannenstiel incision on 20 days after delivery. The histopathology of the cyst was serous cystadenoma of the ovary. The child is now five years old and free from any cyst recurrence.

Keywords:

Ovarian cyst, fetal ovarian cysts, prenatal diagnosis, histological examination

Introduction

In female newborns, ovarian cysts are the most frequent type of abdominal tumor (1). Its prevalence rate is 1 in 2,500 births. The pathophysiology of ovarian cysts is unknown. They could result from the functional anomaly following excessive stimulation of the fetal ovaries by placental and maternal hormones. Fetal and maternal ovarian cysts may co-exist and might have a similar hormonal aetiology (2). The decrease of hormonal stimulation after delivery may lead to spontaneous resolution of the cyst. They are common in maternal diseases complicated pregnancies such as maternal diabetes, pre-eclampsia, or rhesus isoimmunization. It can also occur in an abnormal development because of the disruption of vascularization in the primitive gonad, fetal hypothyroidism, congenital adrenal hyperplasia, and mutation of the G protein α-subunit (3). Renal cyst, hydronephrosis, mesenteric cyst, liver, and splenic cyst are the differential diagnosis of abdominal cysts in the fetus.

Case report

She is a 25-year-old pregnant mother on her second pregnancy and her first pregnancy was uncomplicated resulted in normal vaginal delivery. The booking visit was at 8 weeks of gestational age. She underwent ultrasound investigation at 10 and 18 weeks of gestation. There were no abnormalities in those two scan reports. Then, she was followed up in a community clinic and re-visited for consultant assessment at 36 weeks of gestational age. The ultrasound scan at 36 weeks suggested a septate cyst 6.2 cm x 5.0 cm within the fetal abdomen. We assumed the origin of the cyst to be from the ovary. There were no other abnormalities detected on ultrasound. This pregnancy was otherwise uncomplicated.

She had a normal vaginal delivery at 40 weeks of gestation. There were no intrapartum problems. The baby girl and birth weight was 2.9 kg. The Apgar was 9/10/10. We found the baby to have a septate cyst measuring the size of 7 x 6.9 x 5.8 cm on the second post-natal day ultrasound scan. It extends from the pelvis to the left hypochondrium.

She underwent left ovarian cystectomy on 10/3/2015. During the surgical procedure, a large unilocular cyst was noted occupying

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the peritoneal cavity. A yellow cystic structure arising from the left ovary was seen. The cyst had straw colour fluid. The histopathological report concluded a serous cystadenoma of the left ovary. On the 7th day after surgery, the newborn was discharged with a good postoperative course. The child is five years old and doing well with no concern for her growth.

Discussion

The fetal ovarian cysts are mostly diagnosed during the third trimester, especially after 28weeks' gestation (1,2). We diagnosed this index case on its 36 weeks of gestational age. A sonographic clue for the diagnosis of fetal ovarian cysts, termed as "daughter cyst sign", was reported. There was a single, round, anechogenic structure next to the cyst within the fetal ovarian cyst wall. This feature confirmed the ovarian origin of the cyst with a sensitivity of 82% and specificity of 100% (4).

Under the literature, the reported case shows that current antenatal ultrasound provided a sufficient diagnosis of ovarian cyst. The fetal ovarian cysts can undergo various complications such as rupture, haemorrhage, compression of other viscera and ovarian torsion. Fortunately, the reported case fetus has developed none of these complications.

Clinical management differs among different centers. Cyst aspiration during the antenatal or postnatal period and monitoring with or without surgery are acceptable alternatives. As simple cysts regress spontaneously than complex cysts, conservative approaches with regular monitoring are recommended (5). Some study suggests conservative management for many cysts regardless of their sonographic appearance (6). Dimitraki et al. (7) suggested treatment of symptomatic cysts or cysts with a diameter of >5 cm which do not regress or enlarge, whereas another report suggested neonatal surgery with complex cysts regardless of size or in simple cysts larger than 20 mm in diameter (8).

We managed this case surgically because of severe abdominal distension, 20 days after delivery. Surgical methods are laparoscopy or laparotomy depending on the experience of the surgeon and the facilities available. Two-port laparoscopy is cosmetically preferable and allows for quicker recovery (9). It carried ovarian cystectomy through a Pfannenstiel incision out in the current case because of its larger size.

Ovarian cysts are most often functional and benign tumours. A review of the literature reveals that 85-90% of fetal ovarian masses are cystic and follicular or luteinic origins and 10-15% are organic (3% carcinomas and 7-12% represented by teratomas and mucinous and serous cystadenomas) (10).

The histopathological report is serous cystadenoma of the left ovary. Mode of delivery is based on obstetric indication; not affected by prenatal diagnosis of an ovarian cyst. However, vaginal delivery is recommended (11).

This case was also delivered vaginally. Long-term the outcome of children with ovarian cysts diagnosed prenatally is limited. A higher rate of ovarian loss was noted in children whose prenatal ultrasound showed a simple ovarian cyst that became complex in postnatal scans. Long-term pelvic ultrasound follow-up to monitor the integrity of pelvic organs is recommended (12). This reported case child had been followed up until 5 years and she is found to have no ovarian cysts.

Conclusion

Prenatal ovarian cysts are most often simple follicular cysts. They are almost always unilateral and almost never associated with malignancy. Management of the newborn includes the accurate post-natal diagnosis, exclusion of associated conditions, post-natal imaging with ultrasound abdomen and the surgical management depending on the size of the cyst.

Acknowledgement

I thank to Dr T Vijayakumary, consultant paediatrician, Teaching Hospital Batticaloa and Dr. Malik Samarasinghe, Paediatric Surgeon in lady Ridgeway children Hospital, Colombo for their support on the clinical care to this child.

Declaration of conflicting interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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CASE REPORT

Valproate Induced Non-heapatic Hyperammonaemic Encephalopathy

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Abstract :

Valproate is an antiepileptic drug which is commonly used for the treatment of focal, generalized epilepsy and mood disorders. Valproate is one of the safest first line antiepileptic drug, but like any other drug, has multiple idiosyncratic and dose related side effects.

We have reported a case of a 41-years-old female of idiopathic generalized epilepsy developed valproate induced non-hepatic hyperammonaemic encephalopathy during her treatment. Valproate was withheld immediately, and her symptoms resolved after 48 to 72 hours.

Keywords: Valproate and generalized epileps.

Introduction

Valproate is generally used in epilepsy and psychiatric disorders. Hyperammonaemic encephalopathy is a rare adverse effect of valproate. Possible differentials in a patient with acute or subacute onset altered mental status on valproate could be drug overdose, valproate induced hepatic encephalopathy (VHE) and hyperammonemia in the absence of liver failure also known as valproate induced non-hepatic hyperammonaemic encephalopathy (VNHE). Here we report a case of VNHE.

Case History

Mrs. K 41 year old mother of 3 children with idiopathic generalized epilepsy from childhood with a very poor socio economical background and history of poor drug compliance, admitted by field midwife due to failure to thrive of her 2 month old baby. While she is in the paediatric ward, she developed recurrent generalized tonic clonic seizure. The paediatric team referred the patient to a neurologist and started sodium valproate in an incremental dose and added lamotrigine as she showed poor response to initial treatment. She was seizure free and asymptomatic after three days. The following day she became drowsy and was partially following verbal commands only With GCS of around 10/15. Few Higher mental functions were not assessible. Pupils were equal mid-dilated sluggishly reactive to light. She was moving her all four limbs. Plantares were bilateral extensor. Rest of systemic examination was normal. Repeat complete full blood count, liver function tests, renal function tests, serum electrolytes and non-contrast computed tomography were normal. She maintained euglycemia throughout the admission. EEG revealed diffuse slowing but no epileptiform discharges. Her blood valproate drug levels could not be performed as it was not routinely available in our hospital.her blood ammonia level were in high side. In the presence of normal liver enzymes and the serum bilirubin levels and hyperammonaemia a diagnosis of valproate induced non-hepatic hyperammonemic encephalopathy was made in clinical background and with available laboratory investigations. Valproate was withheld and phenytoin soadium was started. In addition, syrup lactulose 30 cc (through Nasogastric tube) every eight hourly was given. Her symptoms resolved completely after 72 hours. She was discharged with phenytoin soadium and lamotrigine.

Discussion

Valproate is associated with many neurological adverse effects such as headache, unsteadiness, dizziness, blurred vision and tremor being the most common. Valproate frequently cause slight asymptomatic increase in blood ammonia levels. Symptomatic hyperammonemia in patients on valproate could be due to hepatotoxicity (VHE, incidence 1 in 20,000) and rarely hyperammonemia with normal liver functions tests (VNHE)[1]. VNHE is characterized by acute or subacute onset of impaired cognition, drowsiness, disturbed sleep-wake cycle and loss of

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appetite. It is an idiosyncratic reaction and does not correlate with serum valproate levels. In most of cases of VNHE valproate levels are found within normal range [2]. The pathophysiology behind VNHE is inhibition of metabolism of ammonia which is metabolized into urea through Kreb-Henseleit urea cycle in liver. Carbamyl phosphate synthetase I (CPS I) enzyme is rate limiting enzyme in urea cycle and requires N-acetylglutamate for its activation. Valproate when metabolized by mitochondrial oxidation in liver produces propionyl Co-A and valproyl Co-A which inhibits N-acetylglutamate and leads to reduced activity of CPS I hence raised ammonia levels. Also, valproate inhibits fatty acid beta oxidation in mitochondria especially in the presence of l-carnitine deficiency which results in decreased production of acetyl Co-A which acts as substrate for N-acetylglutamate. Deficiency of N-acetylglutamate reduces CPS I activity thus ammonia metabolism [3]. Risk factors for VNHE are polypharmacy (leading to drug interactions eg lamotrigine.in our patient we have suspicion that lamotrigine played role of increasing ammonia levels), poor nutritional state, L-carnitine deficiency, febrile state, inherited susceptibility and urea cycle disorders. Diagnosis is made by temporal relationship i.e., that onset of encephalopathy after administration of valproate and resolution after its withdrawal. EEG shows diffuse slowing with predominant theta or delta waves.

Triphasic wave's also known as metabolic waves can also be seen in some patients. EEG must be done in these patients to rule out non-convulsive status epilepticus as seizure threshold is reduced in these patients[4]. Blood ammonia levels should be assessed in every patient on valproate who develops altered mental status, increased seizure frequency with normal valproate levels.

Treatment is supportive. Valproate should be discontinued. L-carnitine supplementation may attenuate ammonia levels, especially in patients with poor nutritional states. Recommended dose of L-carnitine is 100 mg/kg IV over 30 minutes followed by 15 mg/kg IV given every four to six hourly [5] but in our clinical set up we don't have this drug.

Conclusion

In this case report, we can conclude that VNHE should be considered in a patient who develops new onset altered sensorium while being treated with valproate when liver functions are normal and elevated serum ammonia levels. We suspect VNHE provoked in our patient by lamotrigine and poor nutritional state.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Authors' contribution

KA made the clinical diagnosis and supervised the manuscript drafting. AGRM drafted the first manuscript, reviewed the literature and involved in direct management of the patient. All authors read and approved the final manuscript.

Authors' information

KA (MD) is a consultant physicians at Teaching hospital-Batticaloa. AGRM (MBBS) is a registrar in medicine.

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CASE REPORT

Macular papular rash and prolong fever in a teenage boy: A Case Report of Scrub Typhus in Batticaloa, SriLanka.

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Abstract :

Scrub typhus is relatively common in Sri Lanka. There have been no studies reported in children in Eastern province. This 13 year old boy presented with the fever, severe myalgia and arthritis for seven (7) days, and a rash which started in lower limbs and progressed to whole body over 3 days. As the child did not respond to routine treatment, a provisional diagnosis of scrub typhus was made and he was treated with doxycycline while waiting the serology report which ultimately confirmed the diagnosis of Scrub typhus.

Keywords: Scrub typhus, Prolong fever, Rickettsioses, Arthritis.

Introduction

Scrub typhus is an acute febrile illness caused by Orientia tsutsugamushi which is also previously known as Rickettsia (1). Scrub typhus is widely dispersed in Asia (1,2). Sri Lanka is described as one of the risk areas for scrub typhus (3). Dr SA Kularatne reported the first case of scrub typhus in central province of Sri Lanka (3). Typhus-like fever had also been reported in many parts of Sri Lanka (3). We report an adolescent boy from rural area of Batticaloa district, presented with serology positive scrub typhus and responded to doxycycline dramatically. This is the first child reported in Batticaloa.

Case History

A 13 year old boy residing in Verukal, Batticaloa District, was transferred from the local hospital for further evaluation of prolonged fever. He had high grade, intermittent fever with chills and rigor for 7 days. Child had been active and well in-between fever. The fever did not respond completely to paracetamol and routine antibiotics. It was associated with frontal headache which was moderate in severity, not associated with positions of the head. He also had arthritis of bilateral ankle joints which in turn lead to difficulty in walking. He did not travel recently or bath in river. Moreover, he reported that he developed a rash in lower limbs on fourth day of illness, which later progressed to trunk, and then to whole body. Rest of the systemic review was unremarkable.

On examination, child was febrile (38-39C), ill but active and alert in between febrile episode, pink, not icteric and no lymphadenopathy. There were no features of meningism or altered level of sensorium. There was a macular papular erythematous rash all over the body, but there was no eschar in the body. He had mild swelling of bilateral knee joints. Rest of the system examination had been normal.

Full blood count revealed high white blood count with normal differentials (WBC -13660 N-63% L 28-%). Platelet count and hemoglobin were within normal limits. But inflammatory markers were high (CRP-145 mg/L, ESR- 30mm/1st hour). Blood picture revealed features of bacterial infection with left shift. Lumber puncture revealed protein 40mg/dl; polymorphs -2 cumm; lymphocytes 22 cumm. Gram stain of Cerebrospinal fluid (CSF) did not show organisms. Blood culture, urine culture and CSF culture revealed no bacterial pathogen. Liver and renal functions were within normal limits. Serology for Leptospira, Epstein bar virus and mycoplasma had been negative. Chest x-ray was normal. Ultrasound abdomen and Echocardiogram were normal. Mantoux test had been within normal limit (<10mm).

Child was treated initially as meningitis with intravenous cefotaxime for 7 days after an oral antibiotic for 5 days in the local hospital. Further, child was added oral clarithromycin with

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intravenous antibiotics. As there was no response to conventional treatment, he was clinically suspected to have scrub typhus and started doxycycline. He showed dramatic response and fever settled within 24 hours of doxycycline. While treating with doxycycline, Serology for rickettsia became positive for IgG and IgM. He was completed 7days course and discharged with clinic follow up arrangement. He was reviewed in one week in the clinic with complete recovery.

Discussion

Scrub typhus is an acute febrile illness caused by Orientia tsutsugamushi. It is an obligate intracellular gram-negative bacterium that exists in trombiculid mites, the primary vector which feed on rodents that act as reservoirs for this agent. Orientia tsutsugamushi is transmitted to humans mainly through the bite of an infected chigger, the larval stage of the mite. The bacteria proliferate at the site of bite and form a characteristic skin lesion known as an eschar (1).

Although serologic surveys suggest that as many as one fourth of cases of scrub typhus might occur in children, very few reports of childhood scrub typhus are available in the medical literature (2). There was a study done in Sri Lanka that reported children with age ranged from 1 to 11 years and there were 62% male and 38% female children (4). The reported child was also male, but 13years old.

After an incubation period of 6–21 days, clinical features start to appear. Clinical case definition is based on the presence of fever for more than five days, associated skin rash and rapid defervescence with an anti-rickettsial antibiotic. The presence of eschar facilitates the early clinical diagnosis of the infection. However, a lower prevalence of eschar is a known phenomenon in patients with scrub typhus in South Asia, especially those who are dark skinned and children (5). This characteristic feature has been described in previous studies as well (2,3). It is usually detected by a medical person, and not by the patient. This adolescent boy did not have an eschar. The symptoms of high fever (40°C) with chills, headache, cutaneous rash, lymphadenopathy, cough, myalgia, and anorexia occur (1, 5). The described patient had high spiking fever, rash, myalgia, arthritis, and severe headache. Most patients are well between febrile episodes and this is a striking feature (2) which was similarly observed in our child. There are complications such as meningitis and pneumonitis following scrub typhus that have been reported. Our child was free from these complications as we treated the child clinically before we received positive serology report.

Clinical diagnosis is the main weapon to suspect and start the treatment in the presence of eschar. As eschar is not common in children, investigations have a role. The Weil–Felix test, which is commonly used in Sri Lanka, is non-specific and not useful in making a diagnosis of scrub typhus. Indirect fluorescent antibody assay (IFA), which is the more accurate method of diagnosing rickettsia infection is available only at a few centers in Sri Lanka (4).

The recommended treatment include chloramphenicol, azithromycin and doxycycline (6).The reported case was treated following clinical diagnosis while waiting the antibody assay which confirmed the diagnosis. Although he was commenced clarithromycin with the suspicion of possibility of coexisting mycoplasma infection and also this is also a recommended drug for scrub typhus, this child had poor response to treatment. Since the patient started to deteriorate and ill, he was treated with oral doxycycline for 7days with the clinical diagnosis. He responded well within a day.

Conclusion

Although Typhus is fairly common in other parts of the country, this is the first paediatric case during our experience in Eastern Province. Early clinical diagnosis helped us to treat this case without complications like acute kidney injury, hepatitis, acute respiratory distress syndrome (ARDS), meningoencephalitis, myocarditis, and septic shock. We always suspect scrub typhus as a differential diagnosis of a child who has prolong fever and rash.

Acknowledgment

We would like to thank Dr. V.R Francis, Consultant microbiologist to help to diagnose this disease.

Conflict of Interest

There is no conflict of interest in publishing this article.

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CASE REPORT

A case of Sheehan's syndrome presenting as cardiac tamponade

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Abstract :

Sheehan's syndrome is a rare cause of hypopituitarism, which is characterized by pituitary insufficiency due to ischemic pituitary necrosis after severe intrapartum or postpartum hemorrhage [1]. It usually presents in years of postpartum. Pericardial effusions occur in 30-37% of cases of hypothyroidism but large pericardial effusion causing tamponade is rarely reported as the presenting complication [2,6]. And secondary hypothyroidism is less common compared to primary hypothyroidism [6]. We report this rarer case of hypopituitarism secondary to Sheehan syndrome presenting as cardiac tamponade. We report a 58-year-old Sri Lankan lady who presented with progressive breathlessness, hypotension and hypothyroidism. Echocardiography revealed large pericardial effusion with early features of cardiac tamponade. There was a history of intrapartum hemorrhage following her 4th childbirth, eighteen years ago. Her hormonal profile revealed low levels of gonadotrophins, thyrotrophin, cortisol and thyroxin. Her cardiac functions reverted to normal after replacement therapy with glucocorticoids and levothyroxine. Pericardial effusion gradually resolved without a surgical intervention. It is important to have a high index of clinical suspicion when there is cardiac tamponade with bradycardia. We could save her life by timely diagnosis and appropriate treatment.

Keywords: Sheehan's syndrome, Hypopituitarism, Cardiac tamponade

Introduction

Sheehan syndrome is a rare cause of hypopituitarism, which is characterized by pituitary insufficiency due to ischemic pituitary necrosis after severe intrapartum or postpartum hemorrhage [1].

Lethargy, amenorrhea and failure of lactation are the usual presenting features of Sheehan syndrome [3]. Cardiac involvement in Sheehan syndrome is rare. Although pericardial effusions occur in 30-37% of cases of hypothyroidism, large pericardial effusion causing tamponade is rarely reported as the presenting complication [2,6]. And secondary hypothyroidism is less common compared to primary hypothyroidism [6]. Therefore, hypopituitarism presenting as cardiac tamponade is a rarer presentation according to the literature.

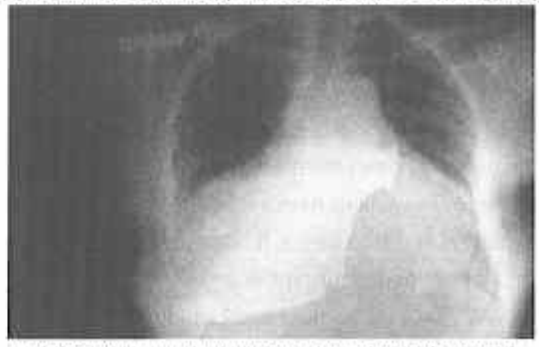
Cardiac tamponade, which is a medical emergency requires urgent pericardiocentesis. If left untreated it is rapidly and universally fatal. [7]

We report this patient, diagnosed as Sheehan's syndrome 18 years postpartum, who presented with cardiac tamponade. Cardiac functions reverted to normal after replacement therapy with glucocorticoids and levothyroxine.

Case History

A 58-year-old female patient presented with progressive shortness of breath, fatigue and orthopnea. She had history of intrapartum bleeding 18 years ago when she delivered her fourth child. On examination she was tachypneic and dyspneic. The pulse rate was 64/min and blood pressure was100/70mmHg. She had light brown facial pigmentation and coarse face with madarosis. Also generalized edema with dry skin was apparent.

Further investigations revealed TSH : 0.08mIU/ml (0.4-4), free T3- 0.26pg/dl (2-4.4pg/ml), free T4 : 0.02ng/dl (0.9-1.7ng/dl), cortisol : 113 (at 9am 138-635nmol/L) , FSH : 12.9mIU/ml (25.8-134.8mIU/ml) , LH : 3.3mIU/ml (7.7-58.5mIU/ml), prolactin : 10.6mIU/L (102-496mIU/L). Chest X-ray showed cardiomegaly.



1.1 CXR-PA view on admission showing cardiomegaly

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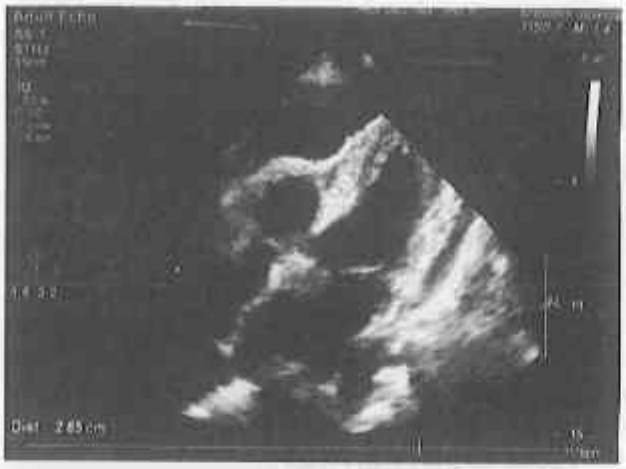
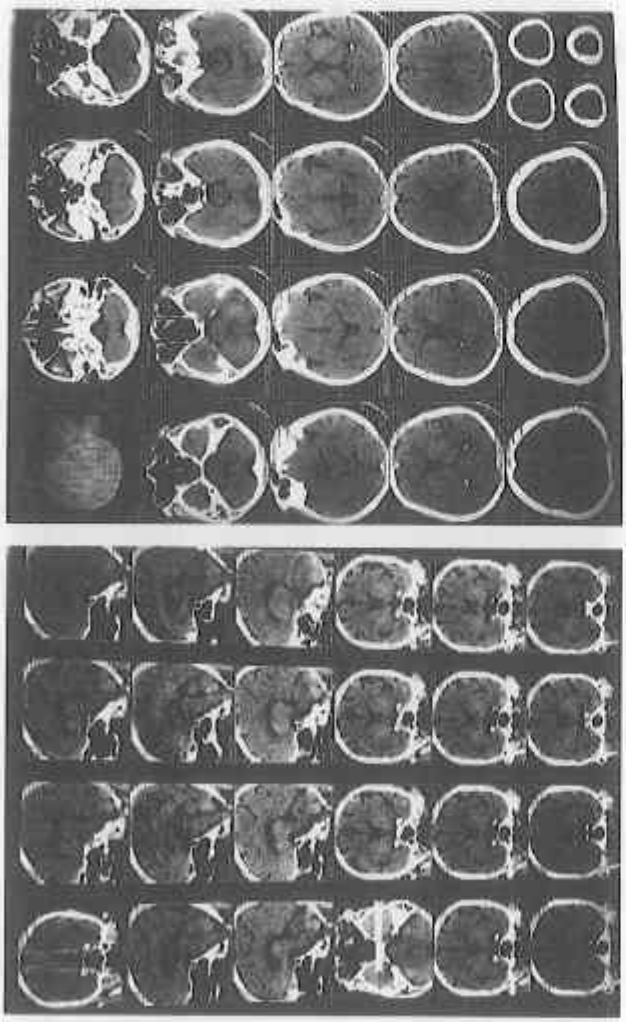


1.2 Two dimensional echocardiographic view of heart on admission showing large pericardial effusion (2.65cm) with right atrial and right ventricular collapse during diastole.

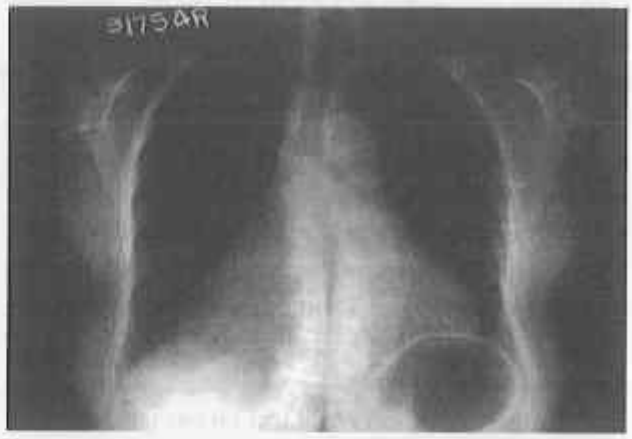
Electrocardiography showed low voltage QRS complexes. Echocardiography revealed a large pericardial effusion with right atrial and right ventricular collapse during diastole. The diagnosis of Sheehan syndrome with impending cardiac tamponade was made.



1.1 CXR-PA view on admission showing cardiomegaly

Though there was right atrial and right ventricular collapse on echocardiography, drainage of pericardial fluid was not performed as the patient was hemodynamically stable.

She improved remarkably after replacement therapy with glucocorticoids and levothyroxine. Her cardiac function reverted to normal with gradual resolution of the pericardial effusion without any surgical intervention.



1.4 Post treatment CXR-PA view - on day 10 of admission, showing significant reduction in pericardial effusion.

Discussion

Sheehan syndrome is a rare cause of hypopituitarism in modern days because of advanced obstetrical practices. The prevalence of the disease is about 2.5%-4% according to some studies [8].

According to a retrospective study done in India using records of 114 patients with Sheehan syndrome, age at diagnosis was 52.1+/-12.7years and mean age at the last delivery was 32.4+/-6.5years. The period of delay in diagnosis was 19.7+/-10.2years [9].

Sheehan syndrome is the clinical syndrome that occurs due to hypopituitarism caused by anterior pituitary cell necrosis following postpartum hemorrhage. The majority of patients remain asymptomatic for months to years [1].

The commonest manifestation of Sheehan syndrome is agalactorrhea. Other features include amenorrhea, oligomenorrhea, hot flushes, reduce libido, symptoms of hypothyroidism and adrenal insufficiency [3].

Our patient presented with cardiac tamponade secondary to hypothyroidism, adrenal insufficiency and hypogonadism features. She has been asymptomatic for 18 years following postpartum hemorrhage. Her main symptoms were hypothyroid features together with pericardial effusion and cardiac tamponade.

Although pericardial effusions occur in 30-37% of cases of hypothyroidism, large pericardial effusion causing tamponade is rarely reported as the presenting complication [2,6]. And secondary hypothyroidism is less common compared to primary hypothyroidism [6]. Therefore, hypopituitarism presenting as cardiac tamponade is a rarer presentation according to the literature. Pericardiocentesis with a pig tail catheter was the mainstay of treatment for tamponade in each case. Cardiac tamponade is a medical emergency, which need rapid diagnosis and treatment to prevent death.

Our patient had features of cardiac tamponade, but with bradycardia which pointed towards a concurrent hypothyroid state. We suspected hypopituitarism secondary to possible Sheehan syndrome as the cause for the pericardial effusion. Cardiac tamponade was confirmed by a 2D echocardiography. And hormone profile confirmed the hypopituitarism. MRI brain was planned and awaiting the report.

Although the definitive treatment for cardiac tamponade is urgent pericardiocentesis, we kept the patient under observation as she was hemodynamically stable. We offered her hormone replacement therapy with initial doses of intravenous hydrocortisone followed by oral hydrocortisone and levothyroxine. She improved gradually, both clinically and biochemically. Pericardial effusion resolved completely after 3 months of oral hormone therapy without surgical interventions.

Therefore, it is evident that cardiac tamponade or pericardial effusion may be the first manifestation of undiagnosed Sheehan's syndrome in a menopausal female. And it should be diagnosed timely where the proper therapy with hormone replacement can be initiated and the condition can be managed medically without surgical interventions.

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Picture gallery of cutaneous larva migrans

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Introduction

Cutaneous larva migrans (CLM) results from penetration of the human skin by parasitic larvae from domestic canine, bovine and feline hosts especially in tropical and subtropical countries. Hookworms of dogs and cats, such as Ancylostoma caninum and A. braziliense, are the typical causative agents in Sri.anka. It can innate any parts of the body. Most of the time, it can easily be diagnosed by its typical clinical manifestation of an itchy, erythematous, linear or serpiginous, and dermatitis tract. It has a good response to oral albendazole for 3 to 7days (1,2).There were number of children referred to our clinic without diagnosis and improper treatment. This picture gallery had been prepared from patients who attended to the clinic over the past 2 years.

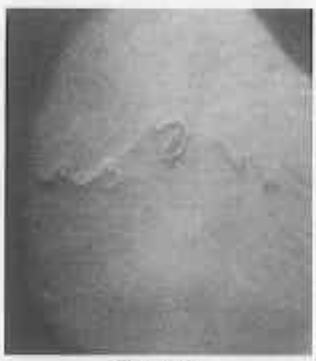

Figure-1:
Lesion at the back of the chest

Figure-2:
Lesion at the buttock

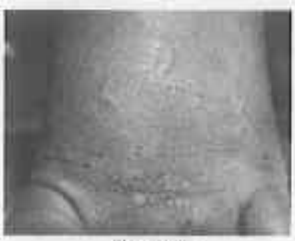

Figure-3:
Lesion of the foot

Figure-4:
Lesion of Buttock and anus

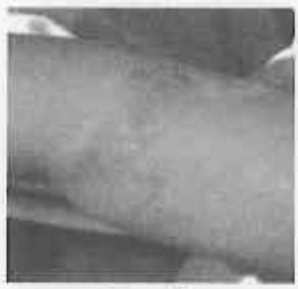

Figure-5:
Lesion at the dorsum of hand

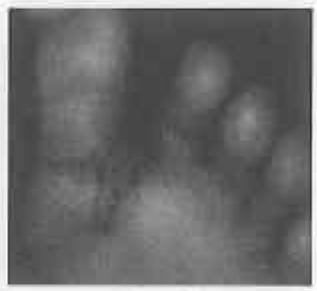

Figure-6:
Interdigital space of the foot

Conclusion

Cutaneous larva migrans affects any parts of the body due to contamination with infected soil. Diagnosis is mainly based on clinical features. Periodic deworming of domestic animals might eradicate the disease in humans.

Acknowledgement

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Conflict of Interest

There is no conflict of interest in publishing this article

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