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From the Editor.

Ever since Roentgen presented his unique discovery to the world, radiographic assessment has proved to be a valuable tool for investigation towards diagnosis of various diseases. The field of radiology world over has shown tremendous technological development since the discovery of the X-ray in 1895. Imaging and non invasive techniques are playing a major role in todays practice. Its unfortunate that there was a long paucity in obtaining the valuable facility for reasons beyond our reach. The arrival of the CT scanner and the services we provide, will be a boost to the clinical practice.
I take privilege in sending this message through this fourth special issue which is carrying an ISSN number.
As we are getting more and more requests for the CT examination, I feel it is worth while telling something about radiation.
Notwithstanding the undoubted role of properly directed CT scanning in the clinical management, the levels of potentially harmful radiation delivered to the patient can be relatively high when compared to many other types of diagnostic X-ray examinations. So there is a need to balance the benefits and risks from CT , related to patient' s health , both present and future. I feel clinical justification of all CT examination is mandatory. In the mean time optimal scanning techniques should be used to give lowest patient dose .
As small children are more susceptible to radiation effects, special attention should be given to the justification and optimization of paediatric CT scanning.

Dr.Sureshini.M.Rajendram
Editor

CATCHING THE CALCULUS: A REVIEW OF ESTABLISHED PRACTICES AND EMERGING TRENDS IN THE INVESTIGATION OF URINARY TRACT CALCULI

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Sabaratnam V.Y. **

OVERVIEW

Renal or ureteric colic is a common urologic problem, the pain commonly being described by the patient as the worst pain ever experienced. A review of the current patient intake to the surgical units would impress upon the increasing number of patients presenting with such complaints. About 5 – 12% of the population will experience renal colic in their lifetime with approximately 50% having a recurrence of symptoms. Hence, the need to assess and review our practice while treating these patients.

The symptomatology varies widely, the classical presentation being the flank and loin to groin pain. Other modes of presentation include haematuria, either gross or microscopic, features of urinary tract infection or simply vague abdominal pain with vomiting and exhibit signs such as renal angle tenderness. These symptoms are commonly precipitated due to ureteric obstruction by the offending calculus, mostly at the pelviureteric or the vesicoureteric junction.

Calcium stones account for the majority of calculi, while the remaining is made up of uric acid, struvite or cystine. The composition of the calculus has a major bearing during diagnosis, since some of these calculi are not identifiable by all diagnostic modalities.

The methods employed to identify the presence of a urinary calculus have more or less been standard for a long period of time. The choice of investigation does not lie in merely identifying the calculi but in also being able to provide us with an overview of the impact it has had on the urinary system, viz., the functioning of the kidneys and the alterations to the ureters. The intravenous urogram has been considered the gold standard while evaluating such patients, the other imaging modalities being the plain radiograph (KUB) and the ultrasonogram. With emerging evidence, the computerized tomography has sought to replace the IVU as the preferred mode of investigating a renal colic. A review of each of these, with their relative merits and demerits, would help us understand the necessity to accept and adopt appropriately.

PLAIN RADIOGRAPH

The plain radiograph of the kidney, ureters and bladder (KUB) offers the simplest and easiest choice. The sensitivity rates of the KUB range from 45 – 60%. It can identify the size, location and shape of the calculi in some patients. While being cheap and immediately available, the obvious disadvantage is the inability to identify radiolucent stones. Furthermore it does not provide any functional assessment. Factors such as fecoliths and phleboliths tend to confound the diagnosis. Its use would mostly be limited to identifying the position of a radioopaque calculus prior to surgery, designating it to the role of a complementary rather than confirmatory investigation.

ULTRASONOGRAM

The ultrasonogram is a valuable tool for initial evaluation of a patient presenting with renal colic. Among the common imaging techniques being considered, it is the only one without any ionizing radiation. Due to its easy availability and interpretability, it does merit consideration while evaluating such patients. The pitfall of the ultrasonogram is its inability to identify midureteric calculi.

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The sensitivity and specificity rates for detection of renal calculi are 95% and 67% respectively, which drops precipitously to 19% sensitivity in the case of ureteric calculi[1]. However, it has a fairly good rate of detection in cases of asymptomatic microscopic haematuria[2], enabling the surgeon to decide on further course of management. Another advantage of the ultrasonogram is that it visualizes hydronephrosis and hydroureter, giving us an insight into the extent of obstruction. While it may not be the preferred standard currently, it does seem to have a role in initial evaluation.

IVU vs. CT

Having discussed the plain radiograph and the ultrasonogram, it is necessary to consider the use of the excretory urogram (IVU) against the emerging superiority of computerized tomography. As both these imaging modalities are used to form a definite opinion regarding the offending agent and the course of management to be taken, it is worthwhile to recapitulate the questions that need to be answered:

- the cause of obstruction and the size of such agent
- the level of obstruction
- functional analysis

INTRAVENOUS UROGRAM

The intravenous urogram has been and continues to be the investigation of choice due to its ability to provide both structural and functional assessment. The sensitivity and specificity rates are approximately 52% and 94%[1] for the detection of ureteric calculi. This improved rate of detection is marred by the fact that the IVU can only detect radioopaque calculi. This is countered by the advantage gained by its functional assessment about the degree of obstruction, tortuosity of the ureters and the relative period of obstruction, given by the delay in urogram appearance compared to the normal side. Type of management can also be decided based on IVU findings especially in the case of renal calculi, for example, while planning a percutaneous nephrolithotomy.

DISADVANTAGES OF IVU

Although the IVU confers a better picture, there are a few major disadvantages to be considered. The obvious concern would be reaction to the contrast material used in IVUs. The reaction rates to such low osmolality agents are considered very low but nevertheless significant, with a mortality rate of 1:40000[3]. Patients with a history of asthma or hay fever cannot undergo an excretory urogram without being adequately premedicated. Secondly, contrast agents carry a risk of being nephrotoxic. There is an approximately 1% incidence of acute renal failure following contrast injection[4], which climbs to nearly 25% in the face of pre-existing renal disease[5]. Thirdly, patients on metformin should omit the drug for at least 24 hrs before undergoing a urogram to avoid the risk of lactic acidosis[6]. Though the condition may be rare, it should be remembered that there is a nearly 50% fatality rate for those affected. Finally, though the standard regimen includes 3 films, it may be necessary to take delayed films costing more time and thereby a longer time spent in the hospital. As discussed earlier, it is limited by its ability to detect only radioopaque stones.

COMPUTERISED TOMOGRAPHY

The Non-contrast Enhanced Computerised Tomography (NECT) has grown over the recent past as an answer to all that is wrong with the excretory urogram. The obvious advantage is that the use of intravenous contrast can altogether be avoided. Among

all modalities being considered the CT has the highest detection rate with a sensitivity of 94% and specificity of 97%[1]. The accuracy of the rates stated has been confirmed by numerous other studies. Niall et al showed that the CT had a sensitivity of 100% and a specificity of 92%[7] while Boulay et al had a similar rate of sensitivity and 96% specificity[8]. The accuracy of the CT does not suffer greatly due to the opacity of the calculus. While being able to detect all radioopaque calculi, it can also visualize radiolucent calculi such as cystine and uric acid. The time taken for a CT is considerably less when compared to an IVU, since there is no necessity for delayed films. In a study conducted by Thomson et al ,the mean imaging time was 30 min for a CT versus 75 min for an IVU ($P < 0.001$)[9]. In patients presenting with atypical symptoms, CT confers the advantage of providing an alternate diagnosis which is a negligible factor when considering the urogram. In a trial comparing the CT and IVU, Homer et al demonstrated that the CT provided a potential alternate diagnosis in 27% of their patients whereas the IVU could do so only in 1 of 23 patients (4%) [10].

DISADVANTAGES OF COMPUTERSISED TOMOGRAPHY

The greatest argument against the CT is the dose of radiation to which the patient is exposed. The dosage of radiation has been reported to be 3 times that of a conventional IVU. The average dose has been calculated at 1.5 mSv for a 3 film IVU while an unenhanced CT gives 4.5 mSv[11]. A comparable dosage of radiation has been demonstrated by Homer et al (1.48 mSv for an IVU versus 4.95 mSv for a CT) [10]. The other major concern is the apparent inability to elicit functional information from a CT. The IVU, on the other hand, gives a great degree of information through contrast excretion times and also provides light on the degree of obstruction. In this age of economic healthcare, the cost of a CT, when compared with an IVU, is relatively higher. Furthermore, it is not as easily available and the services of an experienced radiologist will be needed in most cases, to interpret results.

BATTING FOR THE CT

Although the odds seemed to be stacked against choosing the CT as the preferred mode of imaging, a careful assessment of recent studies will convince us that the CT should rather be the way to move ahead. A careful consideration of each of the disadvantages listed previously should convince some, if not all, that there is more to it than what is apparently evident.

The initial radiation dosages may be lopsided. The CT, more often than not, provides a conclusive diagnosis whereas an IVU may need further radiological investigation to come up with the final answer. In the study by Thomson et al, it was demonstrated that the mean effective radiation to diagnosis was 5 mSv for a NECT and 3.5 mSv for an IVU ($P < 0.001$)[9], which evidently bridges the gap in radiation dosage. Newer studies considering low dose CT have showed encouraging results and promise to eliminate the radiation dosage out of the equation. Kluner et al have demonstrated that lower doses need not mean poorer results. In their study, the mean effective whole-body dose was only 0.5 mSv in men and 0.7 mSv in women but the sensitivity and specificity, for visualizing urinary tract calculi, stood at 97% and 95%. This has brought to light that the CT can still be as accurate, while delivering a dosage equivalent to a conventional abdominal x-ray. Other studies have shown that this dose can be further reduced by alterations in certain technique.

Functional evaluation may not be directly evident as in an IVU. However, it is not altogether bereft of any such detail. Indirect modes of evaluation such as hydroureter

and hydronephrosis do shed some light on the degree of damage sustained. These are aided by a finding characteristic of the CT, called perinephric stranding. Perinephric stranding is manifested as a result of perirenal lymphatic congestion and the subsequent effect on the perinephric septae. Demonstrating a sensitivity of 82%, specificity of 93%, positive predictive value of 92% and a negative predictive value of 84%, the study by Smith et al proves that perinephric stranding could be as useful in delivering functional assessment[13].

Cost may appear to be a prohibitive factor when considering the CT. A look at the wider picture goes to show that there is no great chasm, as depicted. The conclusivity of the CT helps cut down on costs. The IVU in many cases needs further evaluation, thereby slowly adding to the cost factor. According to the study by Thomson et al, 28% of the patients who underwent an IVU needed 32 additional imaging tests to establish a diagnosis, whereas only 6% of the NECT group needed 7 added imaging tests. The average diagnostic imaging cost was found to be A$ 181.94 for the NECT group and A$ 175.46 for the IVU group[9]. The small difference would be easily offset by factors such as higher accuracy, lesser time spent and better patient compliance.

A LOOK INTO THE FUTURE

Although beyond the purview of this article, it would be worthwhile to have an inkling of what prospects await us when considering urinary tract calculi.

Current studies may continue pitting the CT against the IVU but with the evolution of CT urography, it may be possible to combine the advantages of both and obtain maximum output. 3D reconstruction of digital CT images will offer a better method of track planning in complex cases.

Magnetic Resonance Imaging is another attractive option. The lack of radiation makes it seem a very reasonable alternative to the excretory urogram and CT, but the cost factor makes it economically unfeasible in the current setting. With further research and constant review, it may indeed turn out to be the gold standard of the future.

Finally, virtual nephroscopy/ureteroscopy might be the way to the future and eventually end up replacing currently used modalities. Though experimental, the wide scope of utility expected in diagnosis as well as providing input while treating the disease could help it surpass and supplant all of the above.

CONCLUSION

The merits of the CT have to be accepted and acknowledged. The advantage of early diagnosis, accuracy and lack of contraindications, except in pregnancy, should convince us that it should be considered as the imaging of choice. Clinicians may be reluctant to accept such change. As time progresses, it is inevitable that the CT will be of routine use while investigating renal or ureteric colic. Our role, as practitioners of evidence based medicine, would be to accept the compelling evidence supporting the CT and use it appropriately. The logistics within the current setup may not be conducive for using CT in all cases presenting with suggestive complaints. IVU and CT should be complementary techniques, the choice of investigation being patient profile dependent. At the same time, it would be wise to remember that anything that is old need not be discarded. The IVU may have lost its sheen but there is no denying the fact that it still has a role to play in evaluating such patients and is not expected to fade away anytime soon.

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ACUTE RESPIRATORY DISTRESS SYNDROME (ARDS): CONSENSUS AND CONTROVERSIES

Varathan. S

The lung responds to acute lung injury (ALI) via a series of common pathways causing diffused alveolar damage leading to acute respiratory failure. ALI is considered to be the early stage of acute respiratory distress syndrome (ARDS) characterized by acute onset of dyspnoea, hypoxaemia, and bilateral consolidations on the radiograph (Table1). Thus ALI may subsequently progress to the more severe and more easily readily diagnosed syndrome of ARDS. This most severe type of ALI, was first described by Ashbaugh in 1967. The older term *adult* has been replaced with a more appropriate name *acute* since this severe form of lung injury is not limited to adults. It is hard to demarcate a transition point between ALI and ARDS, since the progression of the disease is dynamic. However, a practical outline of the diagnostic criteria has been established by the American-European Consensus Conference on ARDS (Table1).

Incidence and aetiology

The reported incidence of ARDS varies widely due to the wide variability of its definition and diagnostic criteria. Hence, the true incidence is unknown but is estimated at approximately 17 to 64 / 100 000 cases per year in the United States alone. What is more alarming is the mortality due to ARDS is still reported between the ranges of 25.5% to 58% despite the vast advances in critical care. There are many known causes of ALI and ARDS but these causes can be broadly classified into two main categories for ease of understanding its management. i.e, as causes that arise within or out side the lung (Table2). In general the medical intensive care units often experiences ALI caused by infectious pneumonia while surgical intensive care units encounter ALI following trauma, burns and abdominal sepsis. Regardless of whether the primary aetiology originates within or outside the lung, a systemic inflammatory responds eventually accompanies and is responsible for the progression of the disease

Pathophysiology and Pathogenisis

The pathological evolution of ALI and ARDS have two phases: An exudative phase and a proliferate phase. However, these two phases cannot be separated when the disease is advanced i.e., exudates and fibrotic regions overlap as the disease progresses. Following the initial acute epithelial and endothelial injury, alveolar oedema, haemorrhage and fibrin deposition occur with the infiltration of inflammatory cells. Extensive formation of alveolar exudates along with lining of hyaline membrane takes place in the alveolar space leading to alveolar oedema and consolidation. In addition as the syndrome progresses, fibroblast and alveolar type II cell proliferation becomes prominent. All these changes cause substantial reduction in the lung compliance and the resistance of both airways and the lung tissues leading to a diminution in ventilation / perfusion ratio. Early pulmonary vascular lesions include haemorrhage and the formation of microthrombi in capillaries and smaller pulmonary arteries. This eventually leads to obliteration of large portions of pulmonary vascular bed. Perhaps these vascular changes create a large shunt and thereby venous admixture. Arterial hypoxaemia due to venous admixture is the principal gas exchange abnormality early in ARDS. The reduced ventilation/perfusion ratio also aggravates the situation. Later on, the elimination of CO2 is impaired due to an increase of the physiological dead space to tidal volume ratio (VD/VT).

Arterial hypoxaemia and low lung compliance are the hallmarks of ALI. The pulmonary circulation normally responds to hypoxaemia by locally constricting blood vessels supplying poorly ventilated alveoli, thereby diverting venous blood flow to better ventilated alveoli. This response, termed hypoxic pulmonary vasoconstriction (HPV), is a homeostatic response required to preserve an adequate

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arterial tension. Unfortunately, the combination of HPV, release of vasoconstrictor mediators and down-regulation of the production of vasodilators such as NO and prostacyclin may enhance pulmonary hypertension, which precipitates right heart failure leading to a high rate of mortality.

Therapeutic Approaches to ARDS

Mechanical Ventilation

Mechanical ventilation is an essential component of the treatment of ARDS. As the disease progresses, the breathing eventually lessens to a level incompatible with life. Thus, mechanical ventilation becomes mandatory in order to provide adequate oxygenation and eliminate carbondioxide (CO2). However mechanical ventilation, unless managed cautiously may constitute additional risk factors towards the development, or worsening, of ARDS. Apart from infections arising from invasive ventilation with tracheal intubation, positive pressure ventilation directly alters lung mechanics in this condition that results in barotauma. The force applied to the lung by the ventilator may work as a lever to propagate further damage to lung parenchyma. It appears that shear stress at the interface between collapsed and aerated units lead to breakdown of aerated units. Therefore the ventilatory settings have to be handled carefully in each patient with ARDS in order to prevent barotraumas but yet maintaining adequate oxygenation of the affected lung tissues. Therefore, the selection of ideal modes of ventilation in ARDS is still a controversy amongst intensive care physicians.

High trans-pulmonary pressure (*Pi*, mean airway pressure) is generated when high tidal volumes (12-15ml/kg) are delivered by ventilators, leading to volutrauma. On the other hand low tidal volume of 6 ml/kg may cause hypercapnia and atelectasis. Therefore tidal volumes are set in order to keep the plateau pressures (*Pl*, a surrogate for the actual trans-pulmonary pressure) less than 32cmH2O. This demonstrated fewer instances of barotrauma and better survival rates as shown in previous studies. However, a few studies have shown low tidal volume ventilation, regardless of plateau pressure limits, to be associated with a reduced mortality. Arterial oxygenation can be improved by increasing the fractional inspired oxygen (FIO2) and by increasing the *Pi* by the use of positive end expiratory pressure (PEEP) or allowing a more prolonged inspiratory time. Alveoli are kept open using PEEP, which maintains positive airway pressure through out the whole respiratory cycle and slows the collapse of diseased alveolar units. But it has to be weighed against the corresponding elevation in *Pi* or *Pl*. Applying high pulmonary pressures by these techniques improve alveolar oxygenation but reduce the cardiac out put leading to hypotension and further compromise oxygen delivery to the tissues. On the other hand increasing FiO2 is the other alternative choice of improving the arterial partial pressure of oxygen, but, FiO2 more than 0.6 may be toxic and worsen the lung injury.

Although an ideal ventilatory mode is yet to be identified, ever increasing evidence and clinical experience is showing that airway pressure release ventilation (APRV) could be the primary mode of ventilation. Advantages of APRV ventilation include: decreased airway pressure, decreased minute ventilation, reduced dead-space ventilation, limit the use of sedation, improvement in cardiac output (due to the negative inflation from the elevated baseline with each spontaneous breath). Considering all these facts, a target for a reasonable arterial oxygenation: arterial PaO2 of > 60 mmHg (8kPa) and an arterial oxygen saturation of > 90% are acceptable. Frequent changes of posture, especially by turning the patient to the prone position, may at times dramatically improve arterial oxygenation in the early phase of ARDS.

In ARDS, the physiological dead space to tidal volume ratio is elevated and carbon dioxide production is increased causing high PaCO2. As such, high minute ventilation with unreasonably large tidal volume is required to maintain the PaCO2 within normal limits. However, this may increase the risk of over ventilation and barotrauma. It is therefore recommended to allow the PaCO2 to rise up to 60mmhg (permissive hpercapnoea) without

causing reduction in the pH (<7.2) in patients whom the paCO2 cannot be maintained within normal limits unless increasing the minute ventilation to a higher level which may possibly cause barotrauma.

Fluid Management

Fluid management in patients with ARDS is complex as there are many physiological factors involved in this process. The balance of forces affecting net fluid flux across the pulmonary capillary barrier is governed by the Starling equation. In theory, in normal individual, net flux of fluid occurs when pulmonary capillary pressure exceeds 22 mm Hg. However, in ARDS, oedema formation occurs at lower pulmonary pressures because of the increased pulmonary vascular permeability. Based on this, it would seem reasonable to postulate that keeping the hydrostatic pressure low would lead to improvement in pulmonary oedema of ARDS patients. When targeting low pulmonary artery pressure by minimizing fluid input leads to a reduction in cardiac output and tissue perfusion. Clinical data has shown that lowering pulmonary artery wedge pressure, limited only by tissue perfusion, is associated with a better outcome. Therefore, precise control of pulmonary artery wedge pressure, using Pulmonary Artery Catheter (PAC), seems to be beneficial. But, patients in whom PACs were used to optimize the fluid management didn't show improvement compared to the use of Central Venous Catheters. The patients on PACs had more than twice as many catheter-related complications than patients on Central Venous Catheters. As such, adopting a conservative fluid strategy by optimizing central venous pressure, without compromising tissue perfusion, would be beneficial. Monitoring mixed venous oxygen saturation (>65%), serum lactic acid, and possibly gastric mucosal pH, will help to maintain adequate perfusion and oxygen transport to the tissue.

Nutrition Support

Most of the patients with ARDS are hypermetabolic throughout the disease. Nutrition support, using enteral route should be commenced early as possible in order to prevent possible muscle wasting. Energy intake should be aimed at meeting the expenditure and protein intake should be around 1.2 0- 1.5 g/kg per day. If the energy requirement cannot be met by enteral feeding alone, it can be complimented with parenteral nutrition. Nutrition intakes grossly exceeding the energy expenditure should be avoided.

Infection

Infection control by appropriate microbiological monitoring and specific antibiotic therapy is important, since infections are the major contributory factor to morbidity and mortality in ARDS. However, prophylactic use of antibiotics is not recommended.

Other Therapeutic Approaches

Nitric Oxide

Nitric oxide (NO) is involved in a wide variety of physiological processes. NO is synthesised from l-arginine, nicotinamide adinine dinucleotide phosphate (NADPH), and oxygen by the action of nitric oxide synthase (NOS). Inhaled NO leads to pulmonary vasodilatation by activating guanylate cyclase to induce the relaxation of vascular smooth muscles of the pulmonary vasculatures. This result in increased perfusion and leads to improvement in ventilation-perfusion mismatch. The improvement in oxygenation appears within minutes and can be seen with doses of NO as low as 0.1 ppm. While a majority of patients show improvement with doses of 20 ppm or less, a few required 40 ppm for adequate oxygenation. Furthermore, the response is unpredictable, and oxygenation may deteriorate beyond 60 ppm. Although NO therapy showed short term benefits there is no evidence to support long-term benefits in ARDS. Inhaled NO therefore, is not a standard treatment in ARDS and it can only be considered when patients are non responsive to conventional therapies or as an alternative to extracorporeal membrane oxygenation (ECMO).

Extracorporeal Membrane Oxygenation

Extracorporeal Membrane Oxygenation (ECMO) describes the extracorporeal life support system to oxygenate patients. Many randomized trials of ECMO in sever respiratory

failure have varying inclusion criteria and fail to describe a uniform approach. At the present time, ECMO cannot be recommended as a standard therapy in severe ARDS until the current CESAR (Conventional Ventilation or ECMO for severe Adult respiratory failure) study is concluded.

Prostaglandins

Arachnoid acids is cleaved from plasma membrane phospholipids by the action of phopholipase A2 to form prostaglandins. In severe ARDS, prostaglandins reduce pulmonary arterial hypertension and redistribute blood to the better ventilated segments of lung, thus improve ventilation / perfusion matching and, therefore, in oxygenation. Administration of Alprostadil- prostaglandin E1 (PGE1) showed decrease in mean pulmonary arterial pressure, mean arterial pressure, pulmonary vascular resistance and systemic vascular resistance. It also increases the cardiac index and there by the oxygen delivery to the tissues. However, none of the above studies involving PGE1 have shown any impact on major outcome measures, such as survival rates or duration of mechanical ventilation. Certainly, PGE1 is a useful drug to improve oxygenation in patients with severe ARDS but its contribution to the survival rate is questionable. Eprostenoll- Prostaglandin (PGI2) is the other prostaglandin tested in the treatment of severe ARDS. It is synthesised by the vascular smooth muscles and causes direct vasodilatation of the systemic and pulmonary smooth muscles resulting in right and left heart afterload. However there are no national and international guide lines for the use of PGE2 in humans. Although animal studies have shown beneficial effects of PGI2 in ARDS its effects are yet to be studied in ARDS patients.

Glucocorticoids

ARDS is a diffuse inflammatory process resulting in an end-stage fibro-proliferate response in the lung. Hence there are many studies done pertaining to this aspect as glucocorticoids are well-known inhibitors of these two processes. There have been a number of studies that analyzed the beneficial effects of steroid in ARDS. These studies included glucocortcoids in low to moderate and high doses but no clear benefit have been established. Further studies with prolonged courses of steroids might prove beneficial if coupled with the other recent treatment modalities of ARDS. In addition steroid therapy could also be applied as a preventive measure of ARDS in critically ill patients examined in clinical trials many years ago.

Beta-agonists

Beta-agonists improve the outcome of ARDS through various mechanisms which include prevention of neutrophil sequestration in alveoli, increase in neutrophil apoptosis, shifting the balance of production of inflammatory mediator, increased production of surfactant components by type II pneumocytes, and reduced epithelial damage by certain bacteria. Apart from the above-mentioned benefits, administration of beta-agonists in ARDS demonstrated clearance of water from the lung and improvement in the lung mechanics. However, much work remains to be done to determine the role of beta-agonists in ARDS.

Conclusion

Ventilatory strategies, appropriate fluid management and infection control are the prime therapeutic aspects which determine the out come of patients suffering from ARDS. Several of the nonventilaory strategies for the treatment of ARDS have been explored; however, none of these modalities has been proven universally beneficial when the mortality rate is considered. This does not necessarily prove the lack of efficacy of these therapies and some of these could be practiced individually in selected patients in order to achieve less ICU stay and mortality. There seems to be little consensus in the ideal management of the highly complex scenario of ARDS where a lot is still ill understood. Some of the well intended interventions too, could aggravate the process if not exercised appropriately. Little wonder the mortality has remained high over the years.

Table 1

(1) Acute onset of respiratory distress
(2) Hypoxaemia
ALI : PaO2 / FiO2 d ≤ 300 mm Hg

ARDS : PaO2 / FiO2 d ≤ 200 mm Hg
(3) Bilateral Consolidation of chest radiograph
(4) Absence of clinical findings of cardiogenic pulmonary oedema

Table 2

(1) Direct lung injury
Aspiration pneumonitis
Other pneumonitis: oxygen, smoke inhalation, radiation, bleomycin
Infectious pneumonia, community acquired and nosocomial
Trauma: lung contusion, penetrating chest injury
Near-drowning
Fat embolism

(2) Distant injury
Inflammation, necrosis, infection (sepsis syndrome)
Multiple trauma, burns
Shock, hypoperfusion
Acute pancreatitis
Transfusion-associated lung injury (TRALI)

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MANAGEMENT OPTIONS FOR PERINATAL PSYCHIATRIC DISORDERS

Sivajini Rudra*, Thangeswaran Rudra**

Maternity is a pleasant experience for the mother as well as the family. The mental state could transform from elation when the pregnancy is diagnosed, to a worst nightmare at the end of the pregnancy despite a good perinatal outcome. This would be aggravated with an unexpected perinatal loss. Mental illness had been considered as a stigma among the population.

The mental illness in peripartum period had been recognised many centuries ago when the 'maternal impression theory' and 'satanic influence theory' were postulated. These theories were based on the belief that traumatic visual experiences in the mother could lead to babies born with deformities or the deformities were attributed to the bestial paternity. Both these theories attributed that the mother is the cause of any deformities to the new born. This was in contrast to the Ballentine's belief a century ago who put forward a theory that severe maternal mental illness would affect the foetus.

Psychiatric illness complicating pregnancies is one of the leading causes of maternal mortality and morbidity in the western world. This has regenerated great interest leading to establishment of combined psychiatry clinics for antenatal mothers and establishment of perinatal psychiatry units. Psychiatric disease in the peripartum period has major implications to the foetus and the new born in addition to the effects on the family unit. The social implications could be very dramatic. Hence early identification and appropriate management of these illnesses will improve the overall outcome to the mother, new born and the family unit.

Mental illness in pregnancy

The mental illness in pregnancy and puerperium could be categorised into the following groups:

A. Minor Psychiatric Illness
B. Major psychiatric illness
C. Post Partum Mood Disorders
D. Substance Abuse

Commonest of the minor illness are anxiety and eating disorders such as anorexia nervosa or bulimia. The incidence of anxiety increases by 3 to 4 fold during pregnancy and labour. These are initially centred on concerns about the foetus regards to structural abnormalities and its gender. However as the pregnancy advances this will swing towards events about labour and care during the post natal period. Eating disorders are difficult to recognise and very rare in the Asian sub continent.

Schizophrenia, Bipolar Affective disorder and Post Traumatic Stress Disease are the major mental illnesses affecting the pregnant women. They are chronic disorders and most of the women would be on treatment with single or multiple agents. The pregnancies in more than 70% would be unplanned and the woman might not have an insight of the implications of the motherhood. The mild forms of schizophrenia compared to the chronic onset high relapses rate during pregnancy. Incidence of bipolar disorder is during pregnancy is same as in the non pregnant subjects. However there is three to four fold increase within six months of puerperium.

Post Traumatic Stress Disorder (PTSD) complicating pregnancy is another disease entity which had been recently recognised more frequently. The pregnancy and the delivery itself can be a trigger factor for PTSD leading to long term implications on the mental status as well as recurrence in the subsequent pregnancies. The prevalence of PTSD prior to pregnancy is very common in conflict affected countries like Sri Lanka and these patients present with various somatic symptoms. Such patients are difficult to be identified unless a strong suspicion is entertained followed by a good mental assessment by the clinician.

Post natal blues and depression are the disorders which are gestation induced and more

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commonly recognised in the Western World than in developing nations. They are more related to cultural influences, life style factors and genetical influence. There is also theory of hormonal imbalance which could lead to this mood disorder. The post natal blues are transient with an incidence of 26% to 88% and usually improved by the first 10 days. The postnatal depression could manifest within 2 weeks of the post partum period and may last for more than a year. Early recognition and intervention should help to improve the prognosis.

The industrialised world with liberal policies had lead to women addicted to opioids, alcohol and various sedatives. This is exacerbated by the common prevalence of smoking among these young women. Cumulative result would be increased maternal perinatal morbidity and mortality. Pre conception counselling may facilitate to give up these drugs on a temporary or permanent basis prior to the pregnancy.

Principles of management of mental illness during pregnancy and lactation

Preconception counselling regards to assessment of the condition and revisiting the drug and the dose of the drug is the cornerstone in the management of pre existing mental illness during pregnancy and puerperium. Stopping or changing of medication should be planned during the counselling sessions. Polypharmacy should be avoided. Counselling sessions and Cognitive Behaviour Therapy (CBT) play a vital role in the management of the most of these psychiatric conditions. This mode of therapy should be commenced from the preconception period and continued till post partum period.

Symptoms and therapeutic levels should be periodically monitored. If the symptoms are poorly controlled poor compliance for medication should be suspected prior to altering the dose of the drug. High resolution foetal scans should be offered when appropriate. The psychotropic drugs should be commenced only if necessary before pregnancy unless they are contraindicated. The neonates should be observed for withdrawal symptoms or floppy infant syndrome. Close vigilance should be maintained in the vulnerable group of women who are at the risk of developing post partum psychosis or depression.

Multidisciplinary team approach should be adopted in managing these patients liaising with the social services. Some severely affected women may need prolonged hospitalisation before and after delivery in the mother and baby units.

Effects of Psychotropic Drugs during Pregnancy and Puerperium

Most women on psychotropic drugs would have discontinued their medication once the conception is confirmed due to the fear of teratogenicity. This could be with or without medical advice. These patients should have pre conception counselling sessions where the mental state should be assessed and a decision should be made whether the patient needs treatment to control her symptoms. Consideration should be given regards to monotherapy than to multiple drug therapy, changing over to less teratogenic agents and minimising the dose. During this assessment the clinician should also consider the factors affecting the pharmacokinetics of these drugs in pregnancy. Increased plasma volume and circulation, greater glomerular filtration and reduced total proteins and gastric motility and alterations in the liver metabolism are some of the factors which could influence the drug levels in the blood leading either to inadequate levels or toxic levels.

Antenatal	Post natal
Chromosomal abnormalities	Floppy Baby
Structural abnormalities	Withdrawal symptoms
Intra Uterine Growth Restriction	Functional impairment
IUD	Lower IQ

Psychotropic Agents

The following groups of drugs are the frequently used psychotropic agents for the treatment of metal illness:

1. Antipsychotics
2. Atypical Antipsychotics
3. Anti convulsants
4. Anti Depressants
5. Tranquilisers
6. Lithium

Antipsychotics

Phenothiazines and butyrophenones are the commonest form of old antipsychotics used in the management of schizophrenia. Phenothiazines such as Chlorpromazine had not been reported cause congenital malformation in the large studies. However the neonates exposed to chlorpromazine have demonstrated features of extra pyramidal symptoms such as restlessness, tremor, hypertonicity, and dystonia. These symptoms are transient and there is no long term effect on the mental development. Sleep apnoea and sudden infant death syndrome are reported with the use of phenothiazines in the beast feeding mothers even though the amount excreted in the breast milk is negligible.

Haloperidol is one of the commonest Butyrophenones used in psychiatric practice with minimal teratogenic effects. Neonates had suffered from sedation and restlessness. Depot preparations should be avoided in pregnancy due to unproven safety profile.

Atypical Antipsychotics

The newer generation prolactin sparing anti psychotics such as Clozapine, olanzapine and risperidone fall into this category of drugs. These groups of drugs commonly lead to hyperglycaemia in the mothers. There are conflicting reports regards to the occurrence of congenital malformations in those foetuses exposed to clozapine and olanzapine. Floppy baby syndrome and unexplained seizures have been reported in the neonatal period. Atypical antipsychotics other than Clozapine should be the anti psychotics of choice in the puerperal period because they are transferred in insignificant amounts in the breast milk. If the mother is on Clozapine she should be advised to discontinue before and during pregnancy and lactation due to high risk of foetal or neonatal agranulocytosis.

Anti Depressants

Tri Cyclic Anti depressants (TCAs), Monoamine Oxidase Inhibitors (MAOIs) and Selective Serotonin / Noradrenaline Reuptake Inhibitors (SSRIs /SNRIs) are used for treatment of depression.

The SSRIs such as fluoxetine, paroxetine, and sertraline are better tolerated by the mother as well as having fewer side effects on the foetus. The SSRIs and SNRIs groups of drugs could control the maternal symptoms including suicidal ideas better than the TCAs and MAOIs. Mild and self limiting neonatal withdrawal symptoms and persistent pulmonary hypertension are reported with this group of drugs. SSRIs could increase the bleeding tendency in the mother and foetus. Severe neonatal symptoms have been reported with paroxetine and venlafaxine. Fluoxetine had been commonly used and there are no reports of teratogenicity. The IQ and behavioural development are not affected in those children who were exposed to the Fluoxetine during the In Utero Period. Mothers who are taking Paroxetine they should be advised to convert into other anti depressants before conception due to the foetal cardiac abnormalities. Among the SSRIs and SNRIs fluoxetine is secreted in high concentration the in beast milk leading to excessive vomiting, prolonged crying and reduced weight gain during infancy. Since amount of Sertraline and Paroxetine are excreted in the beast milk is insignificant, they are preferred over fluoxetine if the mother plans to breast feed.

Amitriptyline, imipramine, and clomipramine are the TCAs which were used for treatment of depression. There are scanty reports regards to the teratogenicity. However the neonates could suffer from withdrawal symptoms such as jitteriness, myoclonus, and convulsions. The IQ and behaviour development had been normal among those children who were exposed to these drugs in utero. The excessive intake of TCA could lead to arrhythmias and convulsions in the mother. The common side effects experienced by the mother are related to the anti cholinergic side effects. Most of the TCAs are safe during lactation.

Tranylcypromine and Phenelzine were some of the Monoamine oxidases which are used as anti depressants. However these MAOIs result in elevation of blood pressure in the mother as well as IUGR in the foetus. There are limited reports regards their use during pregnancy.

Tranquilizers

The role of benzodiazepines during pregnancy is restricted to the treatment of very severe anxiety. Diazepam, lorazepam, and midazolam are some of the benzodiazepines which are in clinical practice. These drugs are used as sedatives and anti convulsants. The duration of action of could vary from 6 hours for midazolam to more than 24 hours for diazepam. Since they cross the placenta readily the duration of action should be considered when the infant is born within few hours of taking these drugs leading to withdrawal symptoms, 'floppy baby syndrome' such as tachycardia, tachypnea, hypotonia and poor sucking. Cleft lip abnormalities and miscarriage and intra uterine growth restriction had been commonly reported in patients who had been taking benzodiazepines in the first trimester. Most of these adverse effects are dose and duration related.

Chronic intake of benzodiazepines in the mother could result in minor withdrawal symptoms in the neonates due to negligible secretion in the breast milk.

Lithium

Lithium had been the primary drug used for treatment of severe bipolar depression. Exposure of lithium in the first trimester results in Ebstein anomaly of the foetal heart, polyhydramnios and still birth. Neonates will have goitre, jaundice, and 'floppy baby syndrome'.

Hence use of Lithium should be confined to those women whose symptoms of bipolar depression cannot be controlled by the other anti depressants. If it is essential to prescribe lithium it should be at a minimal dose, possibly avoiding in the first trimester and monitor at four weekly intervals until 36 weeks and at weekly intervals after 36 weeks. These women need foetal echo cardiogram.

Lithium is transferred in the breast milk leading to higher concentration of lithium prevalent in the breast feeding infant compared to the mother. Neonates exposed to Lithium in high doses could suffer from thyroid dysfunction. Hence close monitoring of the Lithium levels are essential in both the mother and infant. Most clinicians advice against breastfeeding on mothers who are taking Lithium.

Anticonvulsants

Some of the anticonvulsants could be used as mood elevators for bipolar depression should not be prescribed routinely if the patient is planning for pregnancy. Carbamazepine, Lamotrigine and Sodium Valproate are the commonly used anticonvulsants. 10% chance of foetal malformations including anencephaly, spina bifida, cleft lip, and palate, micrognathia depressed nasal bridge, cardiac defects, and limb abnormalities had been reported with these groups of drugs. The children exposed to these drugs in utero have lower IQ. Sodium Valproate is the most potent teratogen when the dose exceeds 1 gram daily and should be avoided during pregnancy. Since excretion of Sodium Valproate is small in the breast milk it is recommended in the nursing mothers. Lamotrigine should be avoided in lactating mother since the infants exposed to Lamotrigine may suffer from severe dermatological condition.

The women on these anticonvulsants should take Folic Acid of 5 mg daily through out the pregnancy. They also need to be commenced on Vitamin K in the last 4 weeks since the anticonvulsants deplete the Vitamin K dependant clotting factors resulting in increase incidence of intra cranial bleeding in the neonates. Neonates too need Vitamin K supplementation immediately after birth. The anticonvulsants in management of psychiatric disorders should be the last choice during pregnancy due to the above adverse effects.

Electro Convulsive Therapy (ECT)

The role of ECT during pregnancy is limited to those who are suffering from severe bipolar disorder which is not responding to other form of interventions and there is a perceived risk to the mother and foetus.

Summary of Treatment of Psychiatric Disorders in Pregnancy and Lactation

Table 2: Treatment options for Psychiatric disorders complicating pregnancy and puerperium

Disease	Medical Intervention
Schizophrenia	Convert to atypical antipsychotics if already on typical antipsychotics CBT
Bipolar Disorder	If stable on the antipsychotic maintain unless contraindicated Minimise the dose If unplanned pregnancy while on Lithium either stopping or changing is offered if safe If depression treat as below If acute mania typical or atypical antipsychotics. If no response consider ECT If the patient wants to breastfeed either change to pre pregnant drugs unless contraindicated or give antipsychotics
Depression	Mild – withdraw anti depressants gradually and offer CBT Moderate – CBT and SSRIs /SNRIs or TCAs Severe – SSRIs / SNRIs or TCAs Resistant - ECT ECT is only considered in resistant cases Mild to moderate depression during lactation could be helped only with CBT than drug treatment
Anxiety	Stop existing drug unless it is safe CBT Benzodiazepines or anti depressants
PTSD	Stop anti depressants unless it is safe CBT
Substance Abuse	Stop the offending agents as an inpatient Replacement treatment such as methadone or nicotine if appropriate CBT

Conclusion

Managing mental illness during pregnancy and puerperium is major challenge to the obstetricians and psychiatrists. Early recognition and appropriate intervention play a vital role in reducing the morbidity and mortality for both the mother and baby.

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AN EPIDEMIOLOGICAL STUDY OF MORTALITY AND MORBIDITY DUE TO ROAD TRAFFIC ACCIDENTS AT TEACHING HOSPITAL BATTICALOA.

JEEPARA. P *

RAMPRASAD. R. * RAMPRASAD. J.P ***

Background.

The world is passing through an age of significant urbanization, motorization, and industrialization [6]. Batticaloa is no exception to this change. Injuries on roads have increased due to internally displaced people from the peripheries of the province moving into Batticaloa and increasing the already rising number of vehicles and due to lack of safety-related policies and programmes.As a tertiary care center Teaching Hospital Batticaloa is bearing the brunt in terms of provision of acute care, and short-term and long-term rehabilitation services.

Method.

This study was done on patients who were admitted to the THB surgical wards with a history of RTA during the period from November 2007 to February 2008.A questionnaire and direct questioning was used to gather data. Data regarding death on admission was collected from the JMO's office.

For the purpose of the study, a RTA was defined as an accident which took place on the road between two or more objects, one of which had to be any kind of a moving vehicle. Any injury on the road without involvement of a vehicle (e.g. a person slipping and falling on the road and sustaining injury) or injury involving a stationary vehicle (e.g. person getting injured while washing or loading a vehicle) were excluded from the study.[6]

Results.

A total number of 122 patients presented with a complaint of RTA, of those 73% were males (Chart-1). The highest number of victims (25%) were from 30-39 years of age followed by 21% in the age group 20-29 years. More than 70%of victims (93) were under 50 years of age (CHART-2).

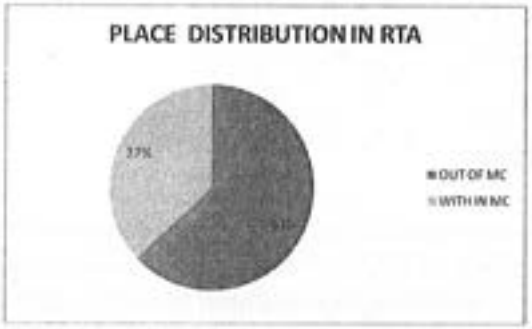
CHART 1

63% of RTA occurred outside Batticaloa MC Limits (CHART 3).

CHART 2

* Consutant Surgeon, TH Batticaloa.
** SHO Surgery, TH Batticaloa.
*** MO Cardiology, TH Batticaloa.

CHART 3



A total number of 17 deaths (13%) were recorded, 11 %(14) were dead on admission. Of the deaths 94 %(16) were males (CHART-4, 5, 6).

CHART 4

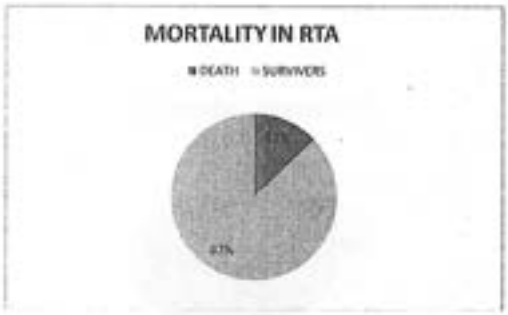


CHART 5

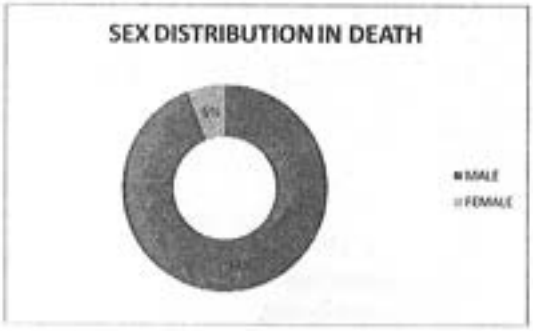
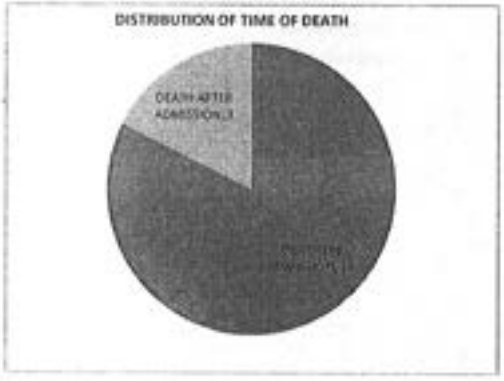
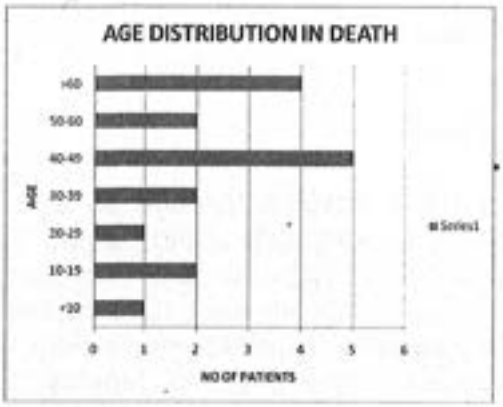


CHART 6



Head injury was the most common cause of death (82%). Age distribution of death is shown in chart - 7.

CHART 7



Mode of travel was a vehicle in 80% of cases, the rest (20%) were pedestrians. The most common vehicle involved was motorbike (70%), followed by cycle (23%).

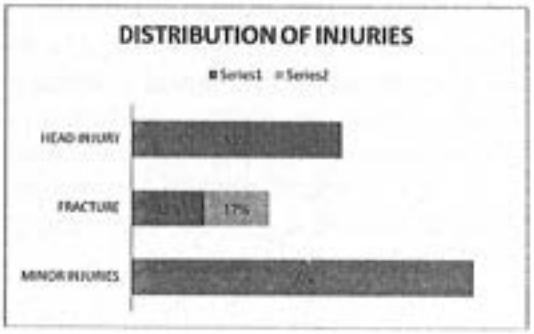
Alcohol was consumed by 13% of victims.

In 55% of victims there was a history of head injury. CT Brain was taken in 8% of patients all of whom had a positive finding (100%).

RTA was associated with a fracture in 36% of patients; of which 51% had a compound fracture. (CHART-8)

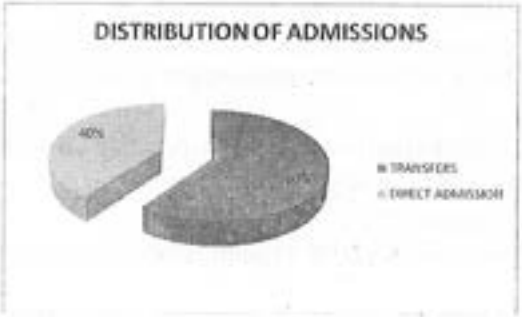
RTA was associated with minor injuries in 90% of patients.

CHART 8



A total number of 74 patients (60%) were transferred from peripheral hospitals. (CHART-9)

CHART 9



Only 2 patients under went laparotomy, one patient had limb trauma necessitating amputation.

Of the survivors majority (86%) had good recovery, 12% had moderate disability and 2% had severe disability. (CHART-10).

GLASGOW OUTCOME SCALE [1]

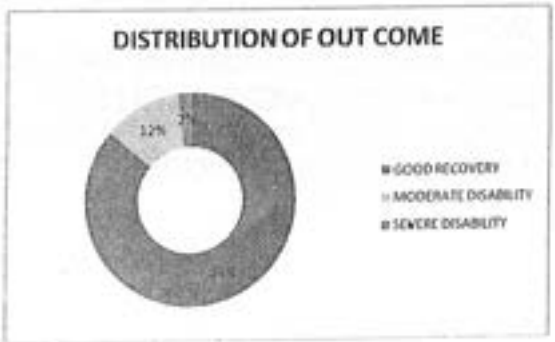
VEGETATIVE STATE
Unable to interact with environment; unresponsive.

SEVERE DISABILITY.
Able to follow commands/ unable to live independently.

MODERATE DISABILITY.
Able to live independently; unable to return to work or school.

GOOD RECOVERY
Able to return to work or school.

CHART 10



DISCUSSION.

The male / female ratio in our study was 2.7:1 which in an Asian study was 3.2:1.[6] The predominance of males was also observed by many authors[4]. This may be due to the fact that in our society still the male is the key player of the household.

Head injury is the most common injury (55%) other than minor injuries (90%) this is consistent with figures of other studies.[7]

Highest numbers of RTA victims were under the age of 50 years, which is in par with a study done in Nepal[6] The lower proportion of RTAs in those aged 50 years and above could be due to the generally less mobility of this population group.

Compared with an Asian study in which 33% of victims involved were motorcyclists [6], in our study 70% were motorcyclists which may be associated with the use of motorbikes as a main mode of travel in Batticaloa.

The majority of RTA (63%) occurred out side the Batticaloa Municipal Council limits which may be due to the lack of supervision by the traffic police out side the MC limits or due to over speeding.

Among the total number of victims 60% were transferred from peripheral hospitals, which is a significant number of patients (74) who will have to be provided with acute care, short term and long term rehabilitation services at THB.

13% of victims were found to have consumed alcohol prior to the accident, which is a bit low compared to 16% in a Nepal study But this is a higher proportion than 4.6%, 8% and reported respectively by others.[8,9]

The mortality from RTA was 13%.In a survey at NHSL it was 15%.[3]

The common cause of death was due to head injury (82%) which is comparable to studies done by other authors though the percentage is high.[4, 5]

36% of victims had a fracture, which will have to be managed in the theatre and incur significant cost to the hospital. Of these victims more than a half (50%) had compound fractures, the management of which is complicated by the emergence of MRSA positive infections.

Fortunately majority of the survivors made a good recovery (86%), with 12% making moderate disability, and 2% ending up with severe disability.

CONCLUSSION.

Road traffic accidents in this part of the country are responsible for a significant percentage of mortality and morbidity. Particularly the age group affected is the Productive and active group.Hospitalisation or loss by death of members of this age group is bound to have economic and social impacts in the family as well as to the country.

As the majority of victims involved were motorcyclist there is need for the authorities to adhere to strict measures in issuing license and controlling over speeding in the roads. Particularly these should be undertaken out of Batticaloa MC Limits as the highest numbers of victims are from this area.

As the majority of victims were transferred from the peripheral hospitals proper resuscitation and primary care should be provided in those institutions which will have major impact on the survival of such patients.

Major cause of mortality was head injury, which reminds us again the importance of wearing a helmet.

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ABBREVIATION.

1.THB—TEACHING HOSPITAL BATTICALOA.
2.RTA—ROAD TRAFFIC ACCIDENT
3.MC—MUNICIPAL COUNSIL
4.NHSL—NATIONAL HOSPITAL SRI LANKA
5.JMO—JUDICIAL MEDICAL OFFICER
6.MRSA—METHICILINE RESISTANT STAPHILOCOCCUS AURIOUS.

CORNEAL ULCER
A MULTIVARIATE STUDY

Dissanayake D.M.A.J *
Chandrakumar S.T.S **

Introduction

The **cornea** is the transparent area at the front of the eyeball. **Corneal ulcer**, or **ulcerative keratitis**, is an inflammatory or more seriously infective condition of the cornea involving disruption of its epithelial layer with involvement of the corneal stroma. Because of its potential for permanently impaired vision or perforate the eye; a corneal ulcer is considered as an ophthalmologic emergency. In developing countries corneal ulcer is frequently the cause of great morbidity as well as economic loss to the person and family. Corneal ulcers occasionally may be sterile, most are infectious in etiology. Ulcers due to viral infection occur in a previously intact corneal epithelium. Bacterial corneal ulcers generally follow a traumatic break in the corneal epithelium. The traumatic episode may be minor, such as a minute abrasion from a small foreign body, or it may result from such causes as tear insufficiency, malnutrition, or contact lens use. Children affected by vitamin A deficiency are at high risk for corneal ulcer and may become blind in both eyes, which may persist life long, causing tremendous and an avoidable loss to the person and to the society.

Materials and methods

This study was aimed to review the causes, gender preponderances if any, age relations, its types, treatment modes and the treatment outcomes of corneal ulcers.

This medium scale multi variate study was performed at Base Hospital Kalmunai (north) in the eye unit.The study was done for the period of four months (from January 2008-April 2008).Patients included in this study were inward patients and clinic patients of all age groups and both genders.

- Total ward admissions-995
- Total clinic admissions-1207
- Patients with corneal ulcers-200
- Ward patients-160
- Clinic patients-40

Observations

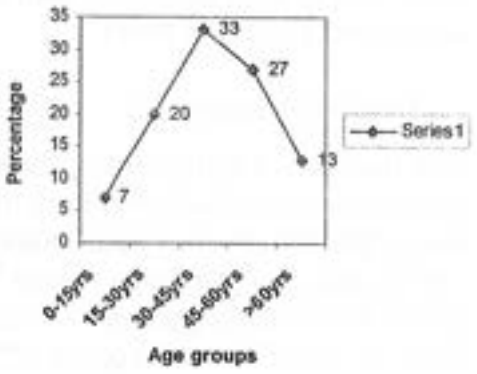
1. Incidence of corneal ulcers

A total of 2202 patients attended the ophthalmology department and out of them 200 patients came with the history of corneal ulcers. The incidence of corneal ulcers is 9.08%.

2. Clinical profile

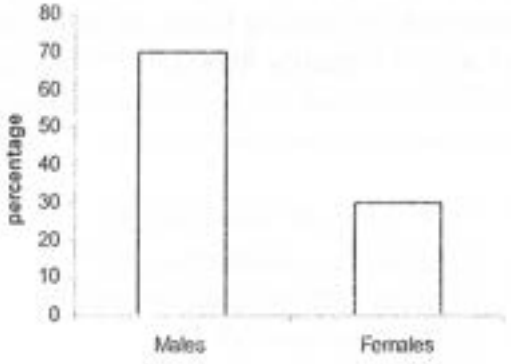
- Age

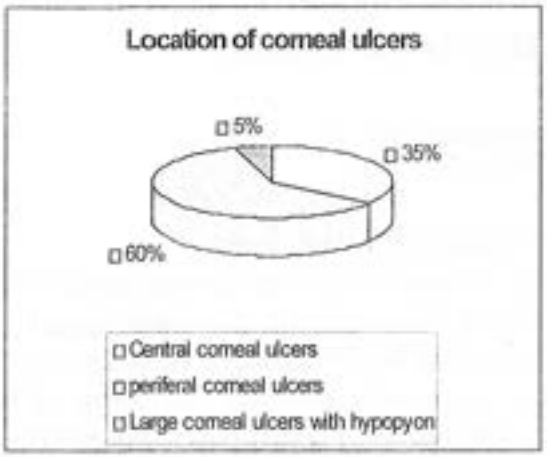
In the age groups-majority of the patients were seen from 30 to 65 yrs old. And most commonly affected were from (45-60) yrs of age.



*SHO Ophthalmology Unit BH, Kalmunai
**Consultant Eye Surgeon BH, Kalmunai

The gender ratio showed a male predominance with the male to female ratio of 7:3.





· Location of corneal ulcers

⊕ Rural / Urban distribution

Patients with corneal ulcers were predominantly from the urban areas comprising of 125 cases (62.5%).75 (37.5%) patients were from the rural area giving an urban: rural ratio of 5:3.

⊕ Clinical presentations

· Symptoms

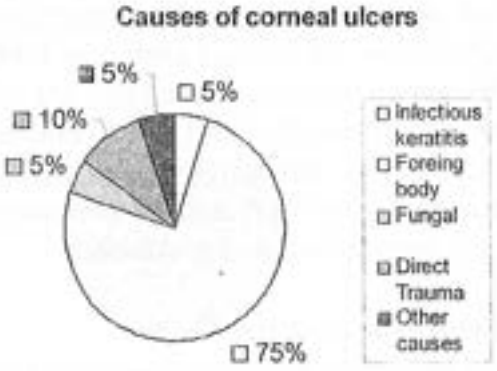
When we looked in to the symptoms 90% of them had red eye, pain which is severe and tearing. Almost 95 %of all patients had a foreign body feeling in the relevant eye. Blurry vision and swollen eyes were found in 60% of them. Pus or thick discharge from eyes was found in 10% of them.

· Duration of symptoms

The duration of symptoms considered here is the onset of symptoms to the presentation to the hospital.Duration of symptoms ranged from 1 day to a week. 68% of the patients presented within a day of symptom onset.20% on the 2nd day. The rest ranged from 3days to one week. Another factor noticed here is the number of rural area patients deviates to the side of delayed presentation.

Causes of corneal ulcers

When the causes of these ulcers were analyzed the following figures were obtained. The most common was due to foreign body impaction in the eye which were-Agrarian foreign bodies (paddy seed, sticks, etc-35%; welding and metal workers dust and foreign body-10%; Road dust-30%).Other causes includes-dry eye, mooren's ulcers, kerato-conjunctivitis sicca and contact lenses.



Diagnosis

As this is a base hospital with limited facilities the diagnosis were made only with the limited and basic investigations.

Diagnosis is made on the basis of

- History from the patient or by standers
- Physical examination
  - Examination of the lids and the conjunctiva reveal associated inflammation or foreign bodies in these locations
  - Visual function is affected variably, depending on the location of the ulcer and whether associated corneal and uveal inflammation is present. Visual acuities were obtained on all patients with ocular complaints.
- Purulent exudate seen in the conjunctival sac and on the surface of the ulcer.
- Slit-lamp examination
  - Direct observation under magnified view of slit lamp and the use of fluorescent stain ,which will be taken up by the exposed corneal stroma and appears green, this helps in defining the margins.The findings of iritis, and hypopyon may be present. (*Hypopyon is an accumulation of inflammatory cells in the anterior chamber that produces a layered meniscus in the inferior anterior chamber.)*
- Fluorescent staining to reveal the characteristic dendritic ulcer of herpes simplex virus (HSV) infection.
- Schirmer's test to diagnose keratoconjunctivitis sicca,and analysis of facial nerve functions and facial nerve palsy.
- Scrapings of the ulcer is taken and is sent to Pathology Department to identify the causative organism.

Treatment

A corneal ulcer needs to be treated aggressively, as it can result in loss of vision. The first step is to eliminate infection. Broad spectrum antibiotics are used before the lab results come back. Medications are then changed more specifically to target the cause of the infection. A combination of medications may be necessary. The cornea has a capacity to heal from many insults but if it remains scarred, corneal transplantation may be necessary to restore vision. If the corneal ulcer is large, hospitalization may be necessary.

Here at BH Kalmunai the treatment depends on the availability of drugs at the hospital and the patients affordability.

For superficial corneal ulcers treatment starts with the monotherapy with either chloramphenecol eye drops or ciprofloxacillin eye drops.

For deep ulcers a combination of antibiotics are used.

In fungal infections, a broad-spectrum antifungal drug is usually chosen. (Some of the alternatives include natamycin, fluconazole, amphotericin B, and ketoconazole.) Natamycin eye drops is the first-line treatment in fungal infections of the cornea.

If tests show that a viral infection is present (from the reports from the scrapings) we begin therapy with mechanical debridement of the infected rim along with a rim of the normal epithelium, followed by a topical instillation of the antiviral medications.

An adjunctive therapy may be needed for conditions secondary to the ulcer. Atropine 1% or scopolamine 0.25% drops are used to prevent the formation of adhesions between the iris and the lens or cornea.

Treatment outcome

- A 95% success rate was achieved with the management given by us both in wards and clinics for patients with superficial corneal ulcers.

- In patients with deep corneal ulcers
  - 80% got completely cured
  - 18% was left with corneal scarring.
  - 2% had to undergo penetrating keratoplasty(at GH Kandy and at Eye Hospital Colombo.)

Discussion

In this study the incidence of corneal ulcer was 9.08% from all the admissions to the Eye Unit at BH Kalmunai.

There was a marked male predominance. The reason may be that when we look into the causes of corneal ulcers 75% were foreign bodies, and out of that 70% of the foreign bodies included occupation related incidences.

The frequently affected age range from 30-65 yrs.

This study also points out to the fact that inadequate awareness about safety measures, especially in the working places. We cannot ignore the role played by the bad condition roads and reckless drivers where 30% were from the road dusts.

This part of Sri Lanka is very under developed, and the living conditions are far beyond imaginations in most of these areas. Unhealthy life styles, poor socio economic status, low educational levels accessibilities and awareness, prevalence of traditional beliefs and medicines in remote hamlets are a major setback. This is resulting in late presentations to hospitals with established eye units endangering the eye to even more complications.

When we compare with the studies done in different parts of the world our findings vary markedly.

Studies from USA, and United Kingdom shows that eight times higher incidence of corneal invasive event in contact lens wearers.

Unlike in developed regions there was no cases of contact lenses as a cause of corneal ulcers in this study. This may be due to a low prevalence rate of contact lens usage in this part of the country.

Also in some studies the teenage and middle aged population was more affected than the older ages and again here the cause is the increased incidence of contact lens usage.

There are other treatment options tried in other parts of the world which are not. available to us. A new trend of treatment is being tried with nerve growth factors for non infectious corneal ulcers that does not respond to conventional management. *(Nerve growth factor is a well-characterized neurotrophin that is required for the development and survival of selected neurons, including sympathetic and sensory neurons. It provides trophic support after neuronal injuries and reverses pathologic changes induced by peripheral-nerve injury. Nerve growth factor receptors have been found on the normal and abnormal cornea and conjunctiva.)*

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HOARSENESS OF VOICE- A CLINICAL PROFILE

Subangi S*
Thivagar V**

"Although voice is not visible to the eye during speech production its absence or malfunction is obvious" (colten et all 1990).

Introduction

Human speech is a function that is acquired in the evolution of the larynx. The larynx or voice box is a structure built of cartilage, muscle and mucus membrane located in the respiratory tract between the pharynx and trachea. Voice is produced by the vibrations of the vocal cords inside, causing them to vibrate at varying wave lengths. The throat, the tongue and the lips then produce the final speech product. A hoarse voice is an unpleasant and rough voice that results from the lesions of the vocal cords.

In most cases, the hoarse, raspy, croaky voice comes on quickly; with voice rest and plenty of fluids, it goes away equally quickly, usually in three to five days. If changes in the voice occur without an identifiable cause, however, or if they last two weeks or longer, it's important. Hoarseness is a symptom of utmost significance and calls for a separate consideration as a subject because of the frequency of its occurrence as a distant signal of malignancy and other conditions.

The mechanism of hoarse voice is

1. Change in movements of the vocal cord
2. Abnormal approximation of the edges of the vocal cord
3. Mass in vocal cords
4. Tension of vocal cords.

Materials and methods

This study was carried out in the Otorhinolaryngology Department at Teaching Hospital Batticaloa. Patients included in this study were inward patients and clinic patients of all age groups and both genders who presented with the complaint of hoarse voice. The time span is 18 months duration (from 1st of January 2007 to 31st of June 2008)

Total ward admissions-4030

Total clinic admissions-3700

Patients with hoarse voice-228

Ward patients-68

Clinic patients-160

Observations

1. Incidence of voice change

A total of 7730 patients attended the ENT department and out of them 228 patients presented with the complaint of voice change. Thus the incidence was noted as 2.95%.and out of them 79 patients were new patients i.e. 1.02%.

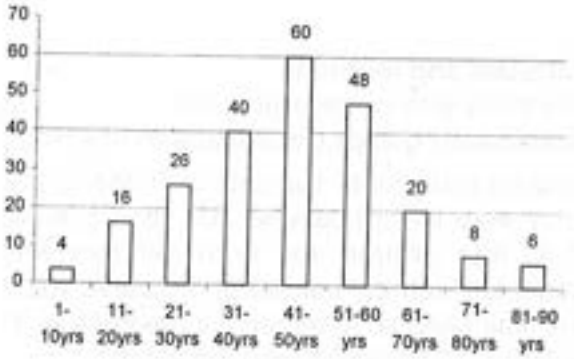
2. Clinical profile of voice change

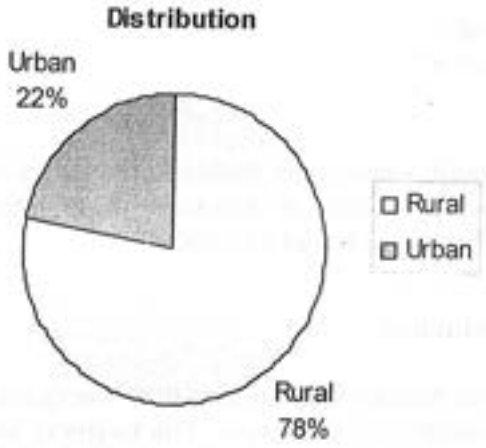
- Age-

Majority of the patients were between the age of 31-60years. That is 64 % of the cases, and most commonly affected were in the 5th decade of their life.

* Medical Officer
** ENT Surgeon Oto - Laryngeology Department TH, Batticaloa.

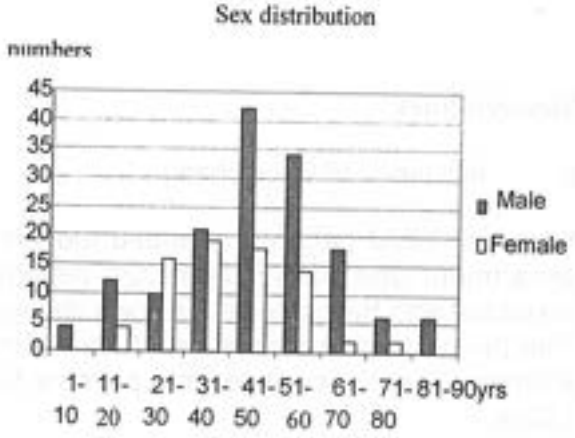
Age Distribution graph





- Sex

A male predominance was observed with the male to female ratio of 2:1



- Rural / Urban distribution

Patients with hoarseness of voice were predominantly from the rural areas comprising of 178 cases (78.1%). Only 50 (21.9%) patients were from the urban area giving a rural: urban ratio of 3.5:1

- Duration of hoarseness:

The duration of symptoms at the time of presentation to hospital was considered here. It was recorded in days, weeks, months and years. Duration of hoarseness ranged from 1 day to 3 years. Half of the patients (50%), presented within few days to months. Another factor noticed was that patients from rural area presented late, compared to the patients from urban area.

- Clinical presentations

1. Symptoms

When looking into the symptoms other than voice change were cough, painful phonation, difficulty in breathing , vocal fatigue, stridor, neckswelling, myxoedema, hemoptysis ,weight loss and fever.These were noted in the descending frequency.

2. Signs

On examination

Signs	No	%
Post nasal drip	20	8.77%
Septic foci in oral cavity	3	1.31%
Inflamed pharynx	28	12.28%
Absent Laryngeal crepitus	87	30.14%
Neck swelling	16	7.01%
myxoedema	13	5.7%

1. Indirect laryngoscopy (IDL)

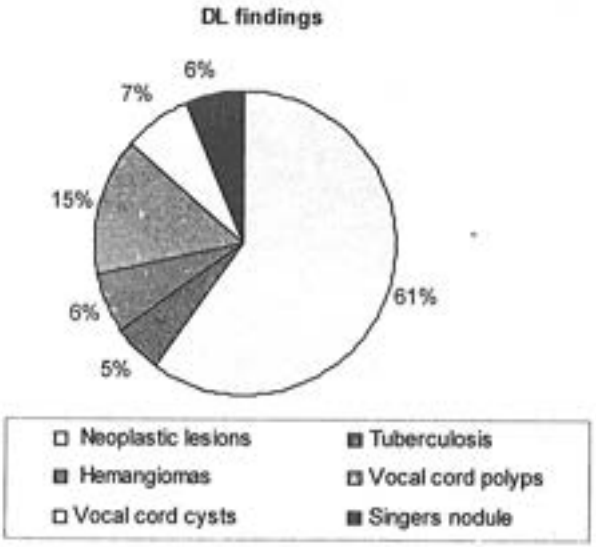
IDL was done in almost all the patients who presented here

- Most frequently encountered finding was an edematous and congested true vocal cords-36%
- Laryngeal growth-32.2%
- Pyriform fossa growth-11%
- Vocal cord palsy-10.87%
- Vocal cord nodules-6%
- Arytenoids area swelling and redness, false vocal cord edema was also found.
- In 10% of the patients it was dificult to visualize under the IDL due to reasons such as restricted mouth opening, uncoperativeness etc.

1. Directlaryngoscopy\ Microlaryngoscopy

DL(Direct laryngoscopy) was done in 90 patients (39%), This was not done in other patients as planned due to patients not giving consent and they were treated conservatively. The findings were as below.

Neoplastic lesions-52, Tuberculosis-5, Hemangiomas-6, Vocal cord polyps-14, Vocal cord cysts-7, Singers nodule-6



4. Causes

The causes of the voice changes were documented as below.

1. Infective 76
   1. Acute Laryngitis-42
   2. Chronic laryngitis-34
      - Non Specific-26
        - Vocal Abuse-18
        - Acid peptic laryngitis-6
        - Leukoplakia—2
      - Specific-8
        - TB—6
        - Syphilis-1
        - Leprosy-1
2. Tumours 97
   1. Neoplastic Lesions-64
   2. Benign lesions—33
      - Cysts-7
      - Hemangioma-6
      - Papillomas-5
      - Vocal cord polyps-15
3. Neurological -26
   - Vocal cord palsy 21
   - Otner"s syndrome-5
4. Singers nodule-10
5. Trauma-8
   1. Strangulation\hanging-2
   2. Cut injury-2
   3. Fume inhalation-2
   4. Blunt trauma-2
6. Hypothyroidism-10
7. Laryngeal stenosis-1

Conclusion

v In this study tha incidence of hoarseness was 2.95% and out of them 1.02% were new cases. In the literature available to us, incidence of hoarseness among patients attending ENT OPD could not be found. "It's strange that hoarseness as a subject has not attracted the attention of many workers".

- In this study the age of patients with hoarseness ranged from 4 -85 years. and the majority of patients were in the group of 21-60 years. Further, patients in their 4th decade of life constituted the single largest group.

- There is ample of evidence to suggest that there is a male predominance in this study.

- Another factor noticed here was the higher rate of delayed presentations especially from the rural inhabitants. This may be due to inadequate and difficult access to bigger institutions, low socio-economic levels, trusting on to traditional medications and unawareness.

- A major observation here identified was that all the neoplastic lesions of the vocal cords were male patients and not a single case of female was encountered. And almost 86% of the affected males were smokers for a significant period.

- Rural population was affected most and mostly they were farmers. These findings may quote a link between the insecticides and improper protective mechanisms.

- All the patients were treated successfully either medically or surgically and the malignancy confirmed patients were transferred to Cancer Institutes for further management.

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ETHICS, PROFESSIONALISM AND QUALITY IN MEDICAL EDUCATION

Jayawickramarajah.P.T*

Introduction

Basic medical education must provide an adequate foundation for the development of future medical practitioners. Instead of presenting the complete, detailed and systematic body of knowledge concerning each and every medical and related disciplines, it must provide the setting in which the student can learn the fundamental principles applicable to the whole body of current medical information. This would enable him to prepare for knowledge management in tune with advancing technology of the future. Basic medical education, must, therefore, provide appropriate experiences to value ethical standards and behaviours, and establish habits of clinical reasoning and decision-making in solving problems of health and disease.

It is axiomatic that professional education in medicine should prepare students well for the problems in health and disease they will face in individual and community settings. However, that is not happening for many problems faced in heath care today. The inadequacy in medical education is a consequence of the failure to adapt to demographic and epidemiological transitions, changes in health systems, increasing privatization of education and services, and demands of the civic society. There are concerns that medicine is being redcued to a trade rather than continuing to be a profession.

Historically, different professions have served the various vital needs of society, such as health, justice, education, social welfare, city planning and organizational management. The origin of professions can be traced to the faith they professed. Thus, medicine professed health, law professed justice, education professed truth and ministry professed salvation. The essence of professionalism has been the welfare of the client rather than professional self- interest.

Ethical Issues

The practice of medicine continuously presents dilemmas of an ethical nature. While public health and health promotion are considered priority areas in resource limited settings, emerging markets and doctors may go for an increase in investments in secondary and tertiary care. Balancing the problems of training and practice in countries with varying levels of socio-economic development and with differing priorities regarding different diseases, with the notion of global standards is another ethical issue for consideration. In research ethics, there is still a contentious debate as to whether the participants in a study should have access to the best treatment in the world or to the best available and sustainable treatment in the country in which the research is conducted[1]. The role pharmaceutical industry in medical education, its support to continuing medical education (CME) and in providing drug in formation to individual doctors is another ethical issue to be considered. Medical schools have failed to teach their students and doctors how to use drugs wisely and conservatively.[2]

It is well known that very little attention is given to medical and public health ethics in professional schools. Other than taking the Oath of Hippocrates at graduation, most medical students receive no training in ethics. Yet, it forms the essential component of professional guidelines and behavior. Ethics have to be taken into consideration when making decisions on doctor-patient relationship, organ transplantation, modern technology, clinical trials, euthanasia, informed consent and a variety of other situations. Though one cannot ensure high ethical standards by merely introducing an ethics course, such an intervention can engage the student as to the nature of the problems and the need to make a responsible choice, rather than blindly following physician models which are not always considered desirable.

Professionalism in Medicine

All Professions in general are expected to possess specialized knowledge and skills; autonomy and self-regulation; trust and special relationship with clients; responsibility and integrity; service to the society above self; duty to speak with authority, and a license to practice and charge a fee.

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There have been contextual changes along with the erosion of professional ethics and behavior, such as, changes in financing of health systems, patients' rights and charter and growing consumer awareness in most countries. A number of high profile clinical failures, such as removing the wrong kidney, and commercial involvement of doctors in transplantation and sale of body organs and the famous Shipman's case with mass slaughter of 215 patients[3], all contributed to licensing bodies, such as GMC and governments taking action. As a result of this there have been significant changes in standards- setting, self- regulation, and revalidation in licensure. Recertification of doctors is increasingly being seen in countries, with educational institutes addressing the issues of continuing education and professional development. In the recent past, concerns about the need for change in the perspective about the nature of professional practice have led medical schools to introduce courses and themes addressing professional development. The literature on professionalism has also grown very rapidly in the last few years.

The most recent work on professionalism concentrated on its definition, conceptualization and assessment. An extensive review of literature[4] revealed three themes within the concept of professionalism;

1) Interpersonal professionalism – refers to interaction with patients and other health care workers – altruism, respect, and integrity;
2) Public professionalism relates to society and its demands, where the professionals place public's health ahead of self – interest –accountability, and self- regulation, etc,and
3) Intra-personal professionalism refers to the requirement to function as a medical professional – life-long learning, and clinical judgment, etc.

A review of assessment in professionalism has shown that ethics, personal characteristics, comprehensive professionalism and diversity are areas assessed with affective, cognitive and behavioral outcomes. The approaches involved 360- degrees assessment, cognitive assessment of professionalism and patient questionnaires. Standardized patients have been shown to be of value in evaluating professional attributes such as empathy and respect. Professionalization is perceived to occur across a continuum of medical education and some authors prefer to use the term "proto-professionalism"[5] as the formal training in Institutionlized settings, and have identified; a) personal attributes, and b) cooperative attributes. Personal attributes contribute to ethical practice, reflection and self - awareness, and life-long learining. Cooperative attributes are concerned with respect to patients, working in teams and social responsibilities. There is now a pressing need for work that provides evidence to support teaching and assessment of professionalism including identification of possible attributes for selection of students that may help predict better professionals for the future.

Quality concerns in Medical Education

A medical school is an important change agent in health development. The mission of the medical school includes teaching, service, research, continuing education and social advocacy. These elements are complementary and indeed synergistic. Medical schools set ideals and standards in several ways and they must strive to maintain educational standards and quality.Quality is a value- laden term which is not always easy to measure. Quality can be considered at institutional, national and global levels.

At the national level, the regulatory agencies and professional organizations set standards to safeguard the public. Through the licensing process empowered by law, the competency and ethical standards of doctors are guaranteed. In the developing world, we are still in the process of strengthening these procedures. Being academic institutes, the medical schools should serve as a haven of excellence in pursuit of ethical and humanitarian practice of medicine. Many medical schools have programmes only for training in basic (under graduate) medical education. In this age of rapid technological advancement and explosion of knowledge in various disciplines, the academic adequacy of these institutes and the ability to nurture future generations of doctors is questionable[6]. Again , we face the question of ethics vs. needs which needs to be

resolved. Medical councils in different parts of globe have developed standards and competencies required for their graduates. However, the implementation of the regulations and procedures is far from satisfactory due to lack of trained personnel, political pressures, privatization and failure to introduce accreditation mechanisms.

Globalization of medical education is seen as an increasing trend. While there are variations in period of training, teaching methods, cultural and socio-economic conditions, and health and disease spectrum, it is astonishing to find that contrary to what would be expected, similarities most often prevail in curricular and outcome related areas[7]. The World Federation of Medical Education (WFME) has taken steps to improve the quality of medical education while taking into consideration the national needs and developments. Progress in medical education worldwide has been driven by recommendation published by WHO (1991[8], 1996[9]) and in collaboration with WFME (1988[10],1998[11],2003[12]). A newly established Institute of International Medical Education (IIME)[13] has provided leadership in defining Global Minimum Essential Requirements (GMER) encompassing seven outcome-based competency domains:

1) Professional values, attitudes, behavior and ethics;
2) Scientific foundation of medicine;
3) Communication Skills;
4) Clinical skills;
5) Population health and health systems;
6) Management of information, and
7) Critical thinking and research.

A mere look at these seven domains shows the needs for medical education to reflect and expand its views on areas not traditionally considered in their curriculum, training and assessment.

At national level, quality of care is an important issue in health policy agenda. Many architects of the new initiatives on quality improvement consider doctors to be impediments to systematic efforts to improve quality. At the close of the millennium, the Institute of Medicine (IoM) in the United states of America released shocking data on the number of deaths related to medical errors. About 10% of people who receive health care in industrialized countries will suffer because of preventable harm and adverse events. The recent WHO data[14] suggest that developing countries account for around 77% of all reported cases of counterfeit or substandard drugs. The IoM committee on quality[15] established six aims for improving the key dimensions of today's health care – patient safety, effective evidence – based service, patient centredness, timeliness, efficiency and equity.

It is being argued that patient safety is enhanced through board certification of doctors. Evidence has been validated based on board certification status measures of doctor's competence and clinical outcomes[16]. The currently used "error preventin theory" delineates two different behaviours - rule bassed behaviour which is prone to lapses and skills, and knowledge based behaviour which is prone to mistakes. Certification and recertification of physicians evaluates the evidence of physicians' a) habits and practices and b) knoweldge base. Every point in the process of care of patient, in hospitals, nursing homes, pharmacies, community lines and their homes contains an inherent lack of patient safety. Adverse events can be the result of problems in practice, products, procedures or systems. As far as medical education is concerned, an institutional change can improve the quality of care that we teach, and to assess leadership, teamwork, continuing learning, service and competence.

Essential Knowledge - Acquisition and Use

While the quality and relevance of medical education in serving the community, and the ideal locations for learning, were actively considered, educators also emphasized the need to acquire essential and the ability to elaborate that knowledge, the ability to use that knowledge[17]. In most medical schools, students are mostly taught the biological aspects of patients' problems. The population perspective and the psychosocial or behavioural perspective are not given adequate importance.

The study of determinants of health, illness and disease, involving socio- economic, environmental and occupational aspects is either in the form of a few lectures or a course unit in community medicine department. In most instances, clinical medicine is taught in isolation without relating it to psychosocial elements of that individual or of community's problems. In defining essential competencies more emphasis needs to be placed on social sciences, health economics and management of information and health care system. Medical students should understand the principles of health systems organization and their economic and legislative foundations. They should also understand the life-style of population and the need for collective responsibility for health promoting interventions as part of a multi-disciplinary team. The concepts and themes, such as, equity, access to health care, effectiveness and quality of care are rarely seen in most curricula of medical schools. Medical students should familiarize themselves with the public health infrastructure, as well as national, regional and local surveillance systems.

The acquisition of knowledge alone is not enough unless that knowledge is used and practised in the medical school itself. Ideally, these knowledge components should be applied in relation to individual patients and communities. Such a possibility exists if the curricula are based on individual or community problems. Problem-Based Learning (PBL) is an educational strategy used in most innovative medical schools. In addition to acquisition and use of knowledge, it also facilitates elaboration to future situations[18]. For example, the SARS outbreak which killed four doctors in Hong Kong also affected routines of medical education at the Chinese University of Hong Kong[19]. Seventeen medical students were physically affected by the virus. However, the outbreak provided an opportunity to introduce and integrate information technology further into the PBL curriculum. They faced this emergency as a problem, used powerpoint presentations in their website, conducted telephone conferences and the external examiner from Dundee assessed the students through telephonic viva. The message here is that it is not the use of technology alone, but the system of PBL culture which cuts down the need for direct contact hours with faculty and focused more on self-directed learning.

Changing Context of Chronic Care

The inadequacy of medical education is a consequence of the failure to recognize the difference between acute and chronic conditions. Chronic diseases including HIV/AIDS-related problems are increasingly being recognized as the principal cause of disability and death in both the developed and developing world.

A chronic disease is continuous in nature. There is rarely a complete cure. The patient usually lives indefinitely with disease and its symptoms. Persistent treatment is required for life based on varying consequences of the disease condition. Invariably the patient becomes more experienced and at times more knowledgeable than the care provider. The nature of the care is variable and the different facets of chronic illness dictate the involvement of a team of health care professionals. In Uganda, the HIV/AIDS clinical team consists of doctors, clinical officers, nurses,counsellors and laboratory technicians and each has an important role to play in the delivery of ARVs[21].

With chronic disease, the role of the patient changes, and she/he inevitably becomes the principal care-taker. The doctor's role not only involves educating the patient about the disease, its treatment and its progress, but also how to interpret the symptoms, understand medications, and manage symptoms like pain and fatigue. With chronic care, the location of care also changes. Treatment occurs in different settings and consists largely of changes in medications and behaviours. Such locations can either be primary health care centre or homes, while the mode of interaction may involve telephone, e-mail or group educational programmes. Caring for patients over a long period of time in the clinic, community and home; educating them in self-care; and using relevant behavioural science concepts and methods in reducing the effects of chronic diseases, should become part of medical education in the future.

education. Evidence shows that teaching in this areas is very fragmented; adhoc and lacks coordination[22]. Palliative care is rarely formally assessed. Until now, teaching, if any, has focused only on acquisition of knowledge and skills rather than attitudes. The development of a relevant and effective curriculum in chronic care therefore should also involve palliative care education.

Conclusion

This paper has examined the value of ethical and psychosocial issues to be considered in medical education. Professionalism is an essential attribute which needs to be developed in order to improve the future practice of medicine. Since professionalism is a construct expected to be developed over the continuum of a doctor's training from basic, graduate and continuing medical education levels, adequate emphasis is needed in the basic medical education to develop desirable, values and attitudes among the future generation of doctors. Quality of medical education is becoming an increasing concern with Globalization of medical education, and services. Global minimum standards are expected in seven outcome based competence domains in medical education. The paper also discusses the changing contextual challenges in education and practice. It describes on why medical education should also emphasize the use of knowledge and its elaboration. Chronic care is identified as an area to be considered within the changing epidemiological and demographic contexts.

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CERBERA MANGHAS POISONING

Clinical Manifestation and its management: Case Report

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In Poison unit – Teaching Hospital Batticaloa , we have observed significant admissions are due to *Thevatia peruviana* (Yellow oleander) and organophosphate poisoning.

- When compared to other poisoning, *Cerbera manghas* (Nachukai) poisoning is less in number.
  But it is more lethal and cause death frequently.

This report discusses the cardio toxic effects and unexplained clinical manifestations of *Cerbera manghus* and the need of further detailed study which could explain the clinical manifestations and the management in future.

Introduction:

Cerbera manghas (sea mango) is a poisonous plant,
Sinhala-Diyakaduru
Tamil- Nachukai
In Srilanka it is most commonly seen in Eastern province. It is naturally distributed from the Seychelles Islands in the Indian Ocean eastward to French Polynesia. It occupies costal habitats.[1]
The tree is like a mango tree with oblong leaves and white flowers. The fruit is similar to mango. The leaves and the fruits (Kernals) contain the potent cardiac substance (a glycoside) called "cerberin".[4,9]

The clinical manifestations and its management of *Cerbera manghas* poisoning are similar to that of *Thevatia.*
Cerbera odollam (Suicide tree or Pong-pong) is a species of tree, native to India and other parts of southern Asia. It grows preferentially in costal salt swamps and in marshy areas.
The kernels of C.odollam contain cerberin, a potent alkaloid toxin related to digoxin, a poison found in foxglove. The poison blocks the calcium ion channels in heart muscle, causing disruption in heart beat. This is most often fatal.[5]

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Case Reports

There were 3 cases admitted to Poison Unit THB in the later part of January & early part of February.

CASE A&B- Two young girls (22 & 20years of age) who are relatives planned & took Nachukai on (28/01/2008) same day, at same time (1pm-2pm) as suicidal attempt.

CASE C- She is a 31 years old woman and mother of 5children, took one seed on 2/2/2008 at 1pm.She was admitted to TH Batticaloa on 3/2/2008.

CASE A- Took 2 seeds of Nachukai and vomited immediately, only clinical sign observed is low BP (100/60—90/50).

In Investigations-
ECG shows Digitalis effect, 2nd degree Heart block and sinus rhythm respectively.
Serum Pottasium was in between 3.9 to 4.3mmol/l, and then developed Hypokalaemia.
Troponin T was negative.
2D Echo –Good LV function, No RWMA

CASE B- Took half of Nachukai. She had nausea and developed giddiness. On clinical examination she was drowsy, peripheries were

cold, pulse was feable 38/minite, Systolic BP was 60mmHg and Diastolic BP was unrecordable.

Investigations –

ECG shows digitalis effect and 2nd degree Heart block. Severe hyperkalaemia was noted on admission (8mmol/l & 6.8 mmol/l). Then developed hypokalaemia (2.0mmol/l).Troponin T was slightly positive 0.12

2D Echo- good LV function

No pericardial effusion

Her platelet & haemoglobin were low while she was in ICU. In chest x-ray there was pleural effusion.

CASE C –She had vomiting , nausea and giddiness. Soon after admission she was haemodynamically stable. Then she developed giddiness, & her peripheries were cold, pulse was feable, BP was unrecordedable.Urine output was low (<10ml/hour)

In Investigation-

ECG shows 2nd degree Heart block and other digitalis effect. Serum Potassium was 5.4 mmol/l , 8.0 mmol/l & 6.2 mmol/l respectively on 3/02//2008. Troponin T planned but not done.

2D Echo-Good LV function, no RWMA

Management

Stomach wash and activated charcoal 50g 8 hourly for 3 days were given to all 3 cases to reduce further poisoning.

Hyperkalaemia was treated with salbutamol nebulization and with insulin dextrose infusion. Sinus bradycardia was treated with IV Atropine SOS.

To maintain blood pressure in cases B&C, CVP line was inserted and Inotropes were started. Temporary pacemaker (TPM) was inserted to cases B&C, as it was indicated. While case C was on TPM, her blood pressure and peripheral signs did not improve and she developed ventricular tachycardia (VT) and asystole respectively. CPR was given, but ultimately she went in to cardio respiratory arrest and died.

DISCUSSION

Binomial name of Nachukai is *Cerbera manghas*. Because of its deadly poisonous seeds, the genus name is coming from Cerberus, the hell dog from the Greek mythology, hence indicating the toxicity of the seeds. Its scientific classification [6] is as follows

Kingdom: Planate
Division: Magnoliophyta
Class : Magnoliopsida
Order : Gentianales
Family : Apocynaceae
Genus : Cerbera
Species : *C. manghas*

CERBERA sp is less commonly used for the purpose of committing suicide. But this is most often fatal. Even one seed could cause death. Cerberin is difficult to detect in autopsies and its taste can be masked with strong spices. Therefore it is a common method in both homicide and suicide in India.[5]

Clinical features observed are nausea, vomiting, hypotention, peripheral signs like absent / feeble pulse and cold peripheries, confusion and cardiac arrest.

The biochemical abnormalities mainly consist of hyperkalaemia[3] followed by hypokalaemia. Hypokalaemia may be a manifestation of poisoning or due to over correction of hyperkalaemia or due to excess vomiting.

An unexplained presentation is low platelet and low hemoglobin observed in case B.

According to management of poisoning 2007 [3], activated charcoal should be used to reduce further poisoning and Magnesium sulphate can be added to it. Instead of activated charcoal, oral cholestyramine can also be used.

Calcium gluconate was not used to treat hyperkalaemia in above cases, as it causes hypercalcaemia which could precipitate digoxin toxicity, and again it is controversial

We did Troponin T to detect any cardiac damage, but it was negative in case A and mildly positive in case B which may be due to the insertion of TPM.
Inspite of TPM and inotropes in case C, the hypotension and peripheral signs did not improved, this is an unexplained part in this study.[8]
During last five months of period (10/12/2007-10/05/2008) nine patients with poisoning were treated with TPM. Among them five patients took Yellow oleander seeds and other four took Nachukai. Two patients with Nachukai died, and others recovered from the poisoning.

Clinical manifestations and ECG changes of both Yellow oleander and Nachukai poisoning are almost similar, but hyperkalaemia and peripheral signs are more intense in Nachukai poisoning. Lethal dose of Yellow oleander is 8 to10 seeds,in which Nachukai is only one.[7]
In Poison Unit TH Batticaloa from January 2007 to March 2008 there were 121 and 16 admissions due to Yellow oleander seed and Nachukai poisoning respectively. Among these 21 (19%) and 6 (37.5%) deaths were due to Yellow oleander and Nachukai poisoning respectively.

This revealed that Nachukai is less commonly used for poisoning but it is more lethal when compared to Yellow oleander.

RECOMENDATIONS

Early admission and prompt treatment of hyperkalaemia and hypotension will help in the management of *Cerbera manghas* poisoning to prevent the deaths.

We need further detail studies which could explain the clinical signs, poisonous substances and in the view of finding other cardio protective agents like Cerberin specific antibody.[10]

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ABBREVIATION

TPM—temporary pace maker.
BP——blood pressure.
TH B—Teaching Hospital Batticaloa.
PU—Poison Unit.
LV-Left ventricle.
RWMA—Regional Wall Motion Abnormalities.
ICU—Intensive Care Unit.
CPR—Cardio pulmonary resuscitation.
CVP—Central venous pressure.

ABNORMAL ARTERIAL PATTERN IN THE UPPER LIMBS OF CADAVER – A CASE STUDY

Rajendraprasad R. *

ABSTRACT

In a routine dissection of a female cadaver, Axillary artery was found bifid and high in each axilla. The divisions were named superficial brachial artery and deep brachial artery. **On the left side**, the superficial brachial artery was narrow and extended up to the left elbow. The deep brachial artery continued as normal radial and ulnar arteries in the cubital fossa. This pattern was reported as a common anamoly (Hollinshead et al. 1985). **On the right side**, superficial brachial artery was larger and continued as ulnar artery in the cubital fossa. It was renamed as ulnar artery of high origin. It could be explained developmentally as a persisting channel joining the trunk of superficial brachial artery and ulnar artery in cubital fossa. This pattern was an occasional finding (Rodiguez et al. 2001).The deep brachial artery of this observation was progressively narrow and a segment was missing from middle third of the arm to the cubital fossa. The deep brachial artery descended downwards and laterally ,in a plane anterior to median nerve, crossed the ulnar artery of high origin just above the elbow, and entered the lateral aspect of cubital fossa, behind the biceps tendon, to continue as radial artery. The proximal branch of the normal radial artery was not present in the cubital fossa. The radial artery was renamed high radial artery and this pattern was very rare. It could be explained developmentally as a persisting channel between deep brachial artery and the lateral branch of superficial brachial artery. (fig 2)

Keywords: bifidity, deep, superficial, regress, anastomosing channel.

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INTRODUCTION

During development, a capillary plexus was formed in the developing forelimb bud. The segments of this plexus either regress or enlarge or produce buds and finally a definite arterial pattern was produced.(William et al. 1995). The developing subclavian artery grows into the axilla to join the plexus. The entanglement of the median root of the median nerve in the axilla gives rise to superficial and deep pattern in the development of the brachial system. The superficial brachial system disappears in the arm but persists in the forearm as distal half of radial and ulnar arteries. The deep pattern in the upper arm which lies behind the median nerve and continued as the axial interosseous artery. From the latter, the deep proximal branches of ulnar and radial arteries arise and join that in forearm (Fig 1). At times, due to complex development variants of axillo brachial axis occur (Hollinshead el al. 1985). In the present observation superficial pattern has existed to produce high ulnar artery. The deep pattern instead of proceeding to the cubital fossa, has produced the high radial artery by joining lateral branch of superficial brachial artery.

OBSERVATION

In a routine dissection, axillary artery was found to be high and bifid in each axilla of a female cadaver. The divisions were named superficial and deep brachial arteries and were traced.

On the left side, the superficial brachial artery was narrower than deep brachial artery and were traced up to the elbow joint. where it ended by dividing into many small branches.

The superficial division gave rise to subcapsular , anterior and posterior circumflex arteries , and small branches to flexor group of muscles. The deep brachial artery descended into the cubital fossa where it ended up as ulnar radial arteries.

On the right side, the superficial brachial artery was larger in diameter than deep brachial artery. It descended behind the lateral root of the median nerve and coursed behind the median part of the biceps muscle . It maintained a plane anterior to the median nerve. Just above the elbow joint, it turned medially and coursed under the high radial artery. It descended behind the biceps tendon and entered the cubital fossa to continue as normal ulnar artery. The superficial brachial artery in its course gave rise to subscapular artery, antereior and posterior circumflex arteries, profunda brachi , small branches to flexor muscles of arm and elbow joint.

The deep brachial artery was progressively narrow and a segment from middle third of the arm to cubital fossa was not seen. Instead , it descended forwards and laterally in front of the median nerve and just above the elbow crossed over the high ulnar artery getting fused to it. Later it coursed behind the biceps tendon to enter the lateral aspect of cubital fossa and continued as high radial artery.

DISCUSSION

In this observation axillary artery was bifid and high in each axilla. The vascular pattern was different on both sides. The bifidity of axillary artery is a common finding in a variety of primates but in man it is a rare anamoly (Matsumato et al. 1994) .The incidence of bifid axillary artery has been estimated by Degaris et al. as 13.4% in negroes and 4.6% in white persons.

In man the bifidity of axillary artery commonly appeared above the median root of the median nerve and the divisions are of equal calibre When it occurs the anterior stem is called' superficial brachial artery and posterior stem as deep brachial artery (Hollinshead 1958) The posterior stem usually has descended in to the cubital fossa and produced the radial and ulnar arteries and was called deep pattern. During development, the stem of the superficial brachial artery has disappeared in the upper arm and was involved in producing the ulnar and radial arteries of forearm (Fig 1). The persistence of superficial brachial artery either total or partial with or without deep connections produced variations such as bifid axillary artery or high radial or high ulnar or both (Rodriguez et al. 1995). In the present observation, on the left side superficial brachial artery has existed but narrow and extended up to the elbow. The deep part of the axilo-brachial axis continues as ulna and radial artery of forearm and was a usual finding.

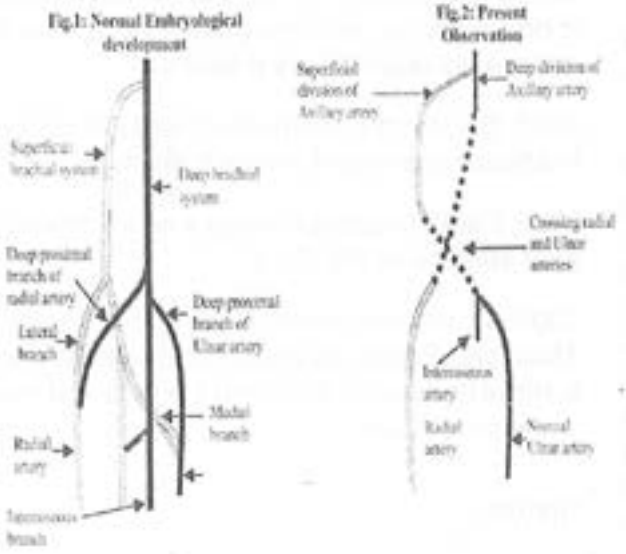
On the right side the superficial division was larger in diameter. It bent medially, crossed the high radial artery just above the elbow and entered the cubital fossa behind the biceps tendon to continue as high ulnar artery. This pattern could be explained developmentally as persisting channel between the trunk of superficial brachial artery and ulnar artery (fig 2). This type of high ulnar artery was an occasional finding (Rodriguez et al. 2001). Further, the above author has also reported a few cases in which the wide superficial artery has entered the cubital fossa and divided into ulnar and radial artery.

In the present observation, the deep division of right brachial artery was progressively narrow and a segment missing from middle third of the arm to cubital fossa. Further the proximal deep branch of normal radial artery did not exist in cubital fossa. The deep artery descended forward laterally (Fig 2) in a plane anterior to the median nerve. Just above the elbow, it has crossed superficially the ulnar artery of high origin and entered the lateral aspect of cubital fossa to be continued as

high radial artery. This pattern could be explained as persisting cross channel between deep brachial and lateral branch of superficial brachial artery. This pattern was a very rare one in literature

CONCLUSION

Superficial brachial artery was also involved in producing the radial and ulnar arteries in fore arm. The trunk and parts of its terminal branches have disappeared to produce the definitive arterial pattern in upper limb. Total or partial existence of superficial brachial artery with or without deep connections with deep brachial artery could produce bifid axillary artery or high ulnar artery or high radial artery or both.



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FACE TRANSPLANT
An Emerging Treatment Option for Facial Disfigurement

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Facial disfigurement may lead to loss of self-esteem, depression, and difficulty with relationships, sexuality, and finding employment. Face transplant, an emerging treatment is intended to give people with severe facial disfigurement a better use of facial features and a more normal appearance than could be achieved through current reconstructive methods. People with faces disfigured by burns, trauma, disease or birth defects might benefit from the procedure.

Art and Culture

The idea and concept of face transplant has been in the human mind for long time. Authors, playwrights and other artists have created numerous novels, plays and movies based on the ideology of face transplant.

1960: The procedure was very grotesquely, yet somewhat accurately, highlighted in Georges Franju's cult horror masterpiece *Les Yeux sans visage* ("Eyes Without a Face"). In this French film, a surgeon, Dr. Génessier, helped by his assistant Louise, kidnaps young women. He removes the skin from their faces and tries to graft it onto his daughter Christiane, whose face has been disfigured in a car crash. All the experiments fail, and the victims die, but Génessier keeps trying while Christiane becomes more unbalanced.

1964: Kobo Abe, Japanese author and playwright, wrote *The Face of Another*, about a plastics scientist who loses his face in an accident and proceeds to construct a new face for himself. With a new face, the protagonist sees the world in a new way and even goes so far as to have a clandestine "affair" with his estranged wife. This novel was made into a movie in 1966.

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1990: In the movie *Darkman*, the central character is Peyton Westlake, a scientist beaten up and left for dead by an evil mobster when his girlfriend, an attorney, runs afoul of a corrupt developer. After being subjected in hospital to radical treatment that destroys the nerves connected to his brain, Peyton, now horribly disfigured and half-crazed, escapes and decides to get revenge on the criminals who hurt him and threaten his girlfriend. He eventually succeeds in destroying his enemies, but is unable to return to his old life, thus continuing his existence as Darkman.

1996: Facial transplant surgery was featured in an episode of Star Trek Voyager.

1997: The plot of the movie *Face/Off* was based on a face transplant operation that involved changing the underlying structure and actual face shape. In the film, the transplant is shown to be reversible, with the patient being able to replace his original face if desired.

2003: The villain in the movie *Once Upon A Time In Mexico* underwent a face transplant.

2005: Facial transplant surgery was featured in a TV episode of *Nip/Tuck*.

2007: In the nonfiction book *Heroes With a Thousand Faces*, an entire chapter is devoted to facial transplant, including the pros and cons of the procedure.

History

The world's first full-face replant operation was done in a hospital in Ludhiana, a city in Punjab, India in July 23 1994. It was on nine year-old Sandeep Kaur, whose face was ripped off when her hair was caught in a thresher. The grass-cutting machine caught one of Sandeep's braids and then pulled her head in, completely amputating her face and scalp. Sandeep's mother witnessed the accident. Sandeep arrived at the hospital unconscious with her face in two pieces in a plastic bag. Abraham Thomas, one of India's top micro surgeons managed to

reconnect the arteries and replant the skin. The operation was successful, although the child was left with some muscle damage as well as scarring around the perimeter where the facial skin was sutured back on. In 2004, Sandeep was training to be a nurse. (Fig 1-5)

Fig 1: Sandeep, before the accident

Fig 2: Sandeep, in hospital after losing the face and scalp

Fig 3: Sandeep's amputated face and scalp

Fid 4: Sandeep, after the replant surgery

Fig 5: Sandeep in 2004

In 1997, a similar operation was performed in the Australian state of Victoria, when a woman's face and scalp, torn off in a similar accident, was packed in ice and successfully reattached.

In November 27, 2005, a team of surgeons in France, led by Professor Jean-Michel Dubernard (Head of transplantation surgery at Lyons University Hospital in France, who performed Europe's first pancreas transplantation in 1976, the world's first hand transplantation in 1998, and double hand and wrist transplantation in 2000) and Professor Bernard Devauchelle (Head of Maxillo-Facial surgery at Amiens university Hospital), made history by carrying out the world's first partial face transplant in Amiens,France

They transplanted tissues, muscles, arteries, and veins taken from a donor onto patient Isabelle Dinoire's lower face.

Mrs. Isabelle Dinoire, 38, had lost her nose, lips and chin after being mauled by her dog, and as a result was not able to eat or speak properly. Several weeks after being admitted to hospital, Isabelle came to the attention of specialist Maxillo-Facial Surgeon, Professor Bernard Devauchelle. Using conventional surgery, doctors are limited in what they can do to reconstruct Isabelle's face. Dr. Devauchelle believed there was an alternative: "This type of tissue loss requires this type of treatment, anything else is just a make-shift solution. The best and only way, to fix it is with a face transplant". The controversial operation was deemed a success with respect to appearance, feeling in the skin graft and acceptance by the patient's body. The face donor was 46 year old Maryline Saint-Aubert from Lyon, France. (Fig 6 - 9)

Fig 6; Isabelle Dinoire, before the incident

Fig 7: Isabelle Dinoire's face after the incident

Fig 8: Isabelle Dinoire, after the transplant

Fig 9: The surgeons, who did the world's first face transplant. (R) Professor Bernard Devauchelle, (L) Professor Jean-Michel Dubernard

In April, 2006, the Xijing Military Hospital in Xian, China carried out a similar operation (world's second face transplant) transplanting the cheek, upper lip, and nose of a farmer, Mr Li Guoxing, who was mauled by a bear while protecting his sheep. (Fig 10)

Fig 10: Mr. Li Guoxing before and after the facial transplant

In January 2007, French surgeons carried out the second partial face transplant (world's third face transplant) in medical history on an "Elephant Man" disfigured since birth. The 27-year-old man from Paris received a new nose, mouth, chin and cheeks in the pioneering procedure at the Henri-Mondor Hospital, Creteil, near Paris. He was afflicted with Von Recklinghausen's disease; an illness portrayed in the 1980 David Lynch film The Elephant Man. Professor Laurent Lantieri, a distinguished French surgeon carried out the procedure, supported by eight other surgeons.

In October 2006, it was announced that a medical team in the United Kingdom had been given permission by the ethics board of the National Health Service (NHS) to carry out what will be the world's full-face transplant. Mr. Peter Butler, Consultant Plastic Surgeon at Royal Free Hospital, London UK who will be heading the team, is currently looking for an appropriate candidate who meets the selection criteria for the operation, which will include an assessment of how the person would deal with the psychological impact of having a new face.

Peter Butler is frustrated by the limitations of conventional surgery in reconstructing the human face. "The skin of the face is very specialized. If you take a line from the hairline to the chin, you will go through five or six different thicknesses of epidermis and dermis, with different numbers of hair follicles, sweat glands, and pigment changes. It is very difficult to reproduce using thigh or back skin".

Face Transplant and Associated Issues

Surgeons, physicians and scientists already have the technical skills and experience to transplant a human face but they also need to consider a wide array of other associated issues.

Surgical Issues

The procedure consists of a series of preparation requiring rotating teams of specialists. With issues of tissue type, age, sex, and skin color taken into consideration, the patient's face is removed and replaced (including the underlying fat, nerves and blood vessels). The surgery may last from 8 to 15 hours, followed by a 10 to14 day hospital stay.

The operation itself will involve a three-step procedure, in which the first team will prepare the patient's face to receive the transplant. The second team will remove the face (skin, underlying fat and blood vessels) from the donor. As with organ transplants, the face will then be transported to the patient, where a delicate, microsurgical operation, lasting hours, will take place.

The surgical techniques used to transplant a human face will be the same techniques used in current facial reconstruction. One of the principal concerns in performing this surgery is ensuring that the donor tissue receives an adequate supply of blood. A wealth of anatomical knowledge detailing the blood supply to the skin and their underlying muscles has made it possible to transplant specific territories of skin, individual muscles, and segments of bone (separately or in combination) to reconstruct volume defects anywhere on the body. This technique is known as 'free tissue transfer' or 'free flap' and is achieved by disconnecting the blood supply of the tissue to be transferred (the donor tissue) and reconnecting these to different vessels at their new location under microscope control.(Fig 11)

Fig 11: Micro vascular anastomosis, joining two blood vessels

Micro vascular surgery of this kind is a well-developed technique and routinely practiced in many units all over the world. These same techniques and principles will be applied during a facial transplantation. Connecting the facial artery and vein on either side of the face would provide sufficient blood supply, but connecting additional vessels will help to make sure that the transplant is successful

How much of the Face is transplanted?

Depending on the severity of the recipient's facial damage several variations of the transplant have been proposed:

- Transplanting a particular facial aesthetic unit
- Using only the superficial skin and fat, much like a mask with a blood supply
- Using skin and fat and also some or all of the facial muscles, nerves and glands
- Using all the soft tissue of the face
- Using all of the face including some skeletal architecture

Immunological Issues

The human immune system naturally resists foreign tissue and so someone who has received a face transplant would need to take anti-rejection drugs for the rest of their life. The consequences of immuno suppression, increased chances of developing cancer, life threatening infections and other organ damage in the future, will be the same as in kidney, liver and more recently hand transplantation.

Ethical Issues

The hopes, anxieties and emotional stability of organ transplant recipients have always posed ethical concerns. These issues become even more critical in face transplant recipients. Even though the knowledge and skills now exist to perform face transplants, there are various ethical concerns that still need to be considered.

The procedure requires a living donor – typically a person who is on life support and deemed brain dead. This raises the issue of ethics with regards to consent of the donor, and could limit the number of face transplants that can be carried out.

In terms of the recipient, the transplant does have its risks. When the new face is attached during surgery, there is the possibility of clotting in the blood vessels of the new tissue and the transplant fails. Afterwards, there is always a chance that the person's body will reject their new face. This would turn the new face requiring a second transplant or reconstruction with other conventional methods. Psychological effects of the procedure may include remorse, disappointment, grief or guilt toward the donor. There is debate as to whether a patient could be left worse off if a transplant were to fail.

A New Identity?

There is no doubt that the face, as the central organ of communication, the focus of sexual attractiveness and the means of immediate recognition by others, has a symbolic as well as a functional significance. Altered identity is therefore a primary concern when face transplants are considered. Someone suffering from a facial injury has already undergone a change in their appearance but a repeated alteration from a face transplant could be just as disturbing, both for the donor and their families.

Will the recipient of a face transplant resemble their former self or look more like their donor? The research and experience revealed that the superficial facial characteristics of the donor are superimposed onto the recipient's existing bone structure and thus a 'third face' with an identity of its own will be produced.

Donor populations

As yet there is no published work which reports the attitudes and concerns of potential donors, although the issue of whether people would be willing to consent to the use of their facial tissue after their death is clearly vital. Contrary to the suggestion that there is no one who would be prepared to donate a face, the information generated by the public engagement exercise outlined above suggests that there is a population big enough to support a transplant programme in the UK.

Patient selection

Thorough psychological preparation is vital to the successful selection of patients. The

challenge faced is that the people who cope least well with facial injury may also be the ones that cope least well with facial transplantation and its long term impact on lifestyle. Identifying the psychological beliefs and behaviors which predict a good outcome in transplantation, is mandatory.

Medical science continues to push the boundaries of what is possible, it must also be mindful of the possible consequences of every breakthrough. The psychological consequences of face transplant surgery for patients, their families, and the families of donors are as yet unknown. Face transplant is a leap forward in facial reconstruction but technical/ethical challenges remain.

BREAKING BAD NEWS

Sasikesavan. N *
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Bad news is any information that changes a person's view in a negative way. When bad news is broken insensitively or inadequately the impact can be distressing for both the giver and recipient leaving lasting fear for later. So doctors should have a plan for this difficult process and learn how to cope up with the recipient reaction, most of the circumstances apply to unexpected death or with terminal illness such as cancer.

What is bad news?

In medical practice, bad news generally refers to telling the patient or the family or both that the patient is suffering from a disease which has little chance of a cure such as a cancer or HIV. Whether the news is considered to be bad depends on the context in which it occurs, how it is delivered, the way in which it is interpreted by the patient and how the patient reacts to it.In general ,news is considered to be bad, if the recipient feels that it is going to have an adverse effect on his or her future or the future of his or her the family in anyway.

Importance of disclosure

In recent decades, the paternalistic model of patient care has been replaced by one that emphasizes patient autonomy and full disclosure .Honest disclosure of diagnosis, prognosis and treatment options allows the patient to make informed health care decisions, that are consistent with their goals and Values. When doctors withhold bad news from a patient who eventually discerns the nature of his or her illness, these patients who discover that information has been withheld may no longer trust their doctor. Indeed, only under rare circumstances is nondisclosure of bad news is ethically permissible. Also it has been found that individualized disclosure is one of the best option.

Why it is difficult to convey bad news?

Because the doctors who convey the bad news may,

- Ø Not know how to give the news
- Ø May feel responsible and fear being blamed
- Ø Worry that it will change the existing doctor patient relationship
- Ø Fear the patient's reaction on hearing the news
- Ø Worry about not having the answers to the questions that may be asked
- Ø Worry about their own feelings and reactions to it
- Ø Fear of doing (if wrong) and giving the wrong information

So due to all these reasons when doctors face the uncomfortable task of breaking bad news, they are faced with the dilemma of recommen ded actions, during the interview as mentioned below

Allow	Avoid
Time	Rushing
Opportunity to react	Bluntness
Silence	Witholding the truth
Touching	Platitudes
Free expression of emotions	Protecting own inadequacy
Questions	Euphemisms
Viewing of a death or injured body	The notion "nothing more can be done"

How to convey bad news

It is an essential part on this matter, when sharing bad news the doctor should maintain eye contact and communication effectively with the patient. Touching the patient, if only to feel the pulse or patting the patient on the shoulder will go a long way in reassuring the patient that the doctors will be available to offer supportive care throughout the illness. It is also important for the doctors to sound positive about the modern treatment available to bring about care which will give the patient a sense of hope that something could be done for the illness.

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The doctor would also have to talk to the patient's relatives. Sometime the relatives may find it harder to receive the news of a fatal disease than the patient.

To provide hope and healing to patients who are receiving bad news doctors could follow the simple mneumonic " ABCDE" which is easy to remember from the American Family physician 2001 is described below.

A.Advance preparation-Ensure adequate time and privacy,confirm medical fact ,review clinical data and be emotionally prepared for the encounter.

B.Build up a therapeutic doctor –patient relationship and identify patient preference regarding disclosure.

C.Communicate well-Maintain eye contact, show concern, find out the patient's understanding ability and knowledge of the situation.

D.Deal with patient-family reactions ,respond to emotional reactions and empathize with the patient.

E.Encourage and validate emotion-Offer realistic hope

What if the patient starts to cry while I am talking?

In general ,it is better to simply wait for the person to stop crying. If it seems appropriate,you can acknowledge it but do not assume that you know the reason for the tears.You may want to explore the reasons now or later.Most patients are somewhat embarrassed if they begin to cry and will not continue for long.DO not run out of the room-You want to show that you are willing to deal with anything that comes up.

I had a long talk with the patient yesterday and today the nurse took me aside to say that the patient doesn t understand what's going on and what is the problem.

Some times patients ask the same questions from different caregivers. At times they just can not remember it at all and sometimes they need to go over something more than once,because of their emotional distress , the technical nature of the medical interventions involved or their concerns were not recognized and addressed

I just found out a caregiver has told something to my patient in a really insensitive way.What should I do?

First,examine what happened and ask yourself why the encounter went badly.if you see the patient later ,you might consider acknowledging to the patient in a way that doesn't slander the insensitive caregiver.(I thought you looked upset when we were talking earlier and I just thought I should follcw up on that –was something bothering you?)

Outcomes of the patients or families followed by bad news

Ineredulity-This is a stage of disbelief. The patients will think that the doctor has made a mistake and they might seek another opinion.

Anger-When the patient realises that the doctor has not made a mistake ,the patient will be angry,find fault in himself or herself with the family.

Acceptance –Acceptance is when the patients accepts the inevitable.

Despair-when all hope is given up and patient goes into a state of depression.

In summery, when Breaking bad news ,doctor should have an appropriate attitude and deliver the news in a caring and sensitive manner.So

that the patient's morale can be maintained and the patient will able to come to terms with their illness with realistic expectation and hope.

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CONCEALED PROBLEMS OF PATIENTS IN FAMILY PRACTICE.

Arulanandem.K *

Most of the patients are anxious to visit family practitioners for various health reasons. They present Medical and sometimes Non-Medical problems to their Family Practitioner in an emotional environment. Usually they feel it appropriate and comfortable to confess their problems to the Medical Practitioner. The patient's encounters are highly appreciated and encouraged by the Family Practitioners as they know their patients for longer periods while understanding their beliefs and customs. Therefore, most of the patients take this opportunity to reveal their hidden problem to the Medical Practitioner.

The dynamic patterns, infrastructure arrangements, inter-personnel relationship of family members play an important role in ill health issues. Generally, hidden problem is brought out as simple physical symptoms or as insignificant presentation while the most important symptoms and relevant messages would be hidden unless it is opened up. For example, headache with sub arachnoid hemorrhage, abdominal pain with twisted ovarian cyst, testicular pain and torsion of testes, apathy mood with suicidal tendencies and sexual history and HIV, etc,. are hidden by the patients.

Hidden problem is obvious with some medical, social and economic background as gender based home violence related to sexual expressions. While behaviors associated with extra marital activities and poor financial management also would be added. Many patients express their experience of past unpleasant medical exposure of their relatives in other health Institutions. They open their hidden agenda when they feel satisfied to discuss it with their family practitioners.

Drug abuse, alcoholism, miscarriages, unethical sexual exposures and premalignant conditions along with economical constrains of patients would also become included in hidden agenda. Broken families, social inequalities, prevailing unrest among communities would also contribute to hide their histories to others as they feel these unpleasantness inappropriate. But, through effective empathic and meaningful communication the Medical Practitioner could learn their hidden agenda in time.

The chronic conditions of severe disabilities, aging problems, sexual dissatisfactions, menstrual irregularities and menopausal changes would also lead to hide much vital information by the patients to the Family Practitioners which invariably affect the management of their problems.

Patients with psychiatric as well as psychological problems carrying social stigma also hide their actual problems, but when exploring the reality of the scene it is entirely different. Therefore, the clinicians and family practitioners have to understand the concept of patients' ideas, concerns and expectation on their visits to them in order to understand their emotions and feelings related to their health problems.

As family practitioner's work on the basis of **availability, accessibility, appropriateness,** as well as **adequacy and affordability,** they deliver continuity and coordinated care. The family prectitioners help in breaking bad news of very important events in the life through their vast experiences.

The family practitioners play a crucial role in promoting the **"Primary Healthcare Concept"** among individuals and families in the Community on several opportunities. Family planning matters too, hidden to some extent as using formal methods and conflicting messages conveyed.

Family Physicians are the key persons in dealing with hidden problems of patients as they spend more time in establishing good rapport and exploring their detailed history in order to develop and obtain excellent outcomes.

"Health is not well understood until it is lost"

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