The Jaffna Medical Journal

volume 26 issue 1 september 2010

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The Journal of Jaffna Medical Association

A MESSAGE OF FELICITATION

UNIVERSITY OF JAFFNA, SRI LANKA

Prof.Mailvahanan Sivasuriya
MBBS (CEY).FRCS (ENG), FRCS (EDIN), FRCS (GLASG), FCS (SL), FACS
FRCOG (GT.BRIT), FCOG (SL), Hon.DSc. (Jaff.)
PROFESSOR EMERITUS,
CHANCELLOR,
UNIVERSITY OF JAFFNA, SRI LANKA

Residence:
67/2, Temple Road,
Jaffna, Sri Lanka.
Tel: 0094 -21-2223929
03 September 2010

THE JAFFNA MEDICAL JOURNAL

It is 'Welcome' news that the Jaffna Medical Journal - The official publication of the Jaffna Medical Association - that had been in abeyance for quite a long time due to the prevailing situation in the peninsula would soon commence publication or rather 'blossom' once again to coincide with the Annual Scientific Sessions 2010 to be held on 10 -12 September.

It is gratifying to note that the Jaffna Medical Association (JMA) "recognises the challenges faced by Jaffna after nearly three decades of war to regain her former glory as a centre of excellence in both medicine and medical education in Sri Lanka".

Needless to mention that one of the basic requirements, inter-alia, for the advancement of medical knowledge and research is a good Medical Journal and I am confident that with the resumption of the publication of the Jaffna Medical Journal commencing September 2010 the existing hiatus will be rectified.

I take this opportunity to congratulate and convey my best wishes to both the Editor and the Jaffna Medical Association and wish that the Jaffna Medical Journal will continue to maintain its high standards.

M. Sivasuriya

PROF. M.SIVASURIYA
Chancellor, University of Jaffna.

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Inside this issue

Editorial

The Jaffna Medical Journal sets out to delineate the "Essentials of Medicine" which often is not an easy task. Jaffna has a special place in the annals of the history of western medicine in the South East Asian region. The first ever medical school in the South East Asian region was established by Dr.Green in the 19th century in Jaffna. Several Jaffna doctors were employed by the colonial administration during the British era and served in the South East Asian countries which were under the British Empire. This rich tradition paved way to the publication of the Jaffna Medical Journal and the first issue came out in 1952.This is one of the oldest medical journal published in Srilanka. Unfortunately the publication was ceased for the past fifteen years due to the conflict situation prevailed in the region.

Even though the need for the revival of this journal was strongly felt, there were several stumbling blocks which prevented this from becoming a reality. Finally the present council of the Jaffna Medical Association decided to revive it despite all the difficulties and succeeded in bringing out this issue of the Jaffna Medical Journal with the underlying theme of "Optimal care in changing realities". This is indeed an indication of defeat of apathy that engulfed our minds and a positive step towards a brighter future.

We strive hard to reach the standards of a professional journal. Your constructive comments and criticisms will enable us to further improve the publication of this biannual journal. But the future of this journal depends on how the professionals here in Srilanka and from among the expatriate community is going to contribute to it.

We reiterate that a united support from the readership will sustain this publication in future.

Editor

Review article

Transcatheter interventions in congenital heart disease

Introduction

Human Cardiac Catheterization was introduced by Werner Forssman in 1929 while he was a surgical resident in Berlin. Ignoring his department chief, he placed a ureteral catheter into a vein in his arm, advanced it to the right atrium, and walked upstairs to the x-ray department where he took the confirmatory x-ray film. Forssmann's daring experiment was condemned at the time as foolhardy and dangerous, and in the face of severe criticism he abandoned cardiology for urology.

Forssmann's procedure, with slight modifications, was put into practice in 1941 by Dickinson W. Richards and Andre F. Cournand, and has since become an extremely valuable tool in diagnosis, research and therapeutics. It has made possible, among other things, precise measurement of intracardiac pressure and blood flow, angiography using opaque material visible on X-ray photographs, diagnostic and therapeutic procedures for arrhythmias and structural heart lesions and direct injection of drugs in to the heart.

In 1956, the Nobel Prize for Physiology or Medicine was awarded to Dr. Werner Forssman shared with Andre F. Cournand and Dickinson W. Richards.

Since these initial experimental procedures, cardiac catheterization has evolved and the first therapeutic catheterization was done by Dotter and Judkins[1] in 1964 who reported treatment of a peripheral vascular lesion, dilatation of a stenosed peripheral vessel, during a catheterization. The next major innovation and the first percutaneous intracardiac intervention was in paediatric cardiology. This was a balloon atrial septostomy which was performed by Rashkind and Miller in 1966[2]. In 1967 the first non surgical corrective procedure, closure of a patent ductus arteriosus (PDA)was described by Porstmann et al[3] and in 1975 vascular occlusion coils were introduced by Wallace et al. One of the major breakthroughs in interventions was in 1975 when an Atrial Septal Defect (ASD)was closed in a 17year old girl using a device by King et al[4]. However routine use of catheter based interventions began in early 1980s where Kan et al published their experience with transcatheter balloon pulmonary valvuloplasty using a static balloon[5]. Since then various other transcatheter interventions for congenital and acquired heart diseases were introduced which include closure of Ventricular Septal defect (VSD), stenting of stenosed vessels, replacement of pulmonary or aortic valves and percutaneous repair of mitral valve.

Basic Technique

All catheter interventions follow a common cascade of events. Patient is admitted on the day prior to the procedure and basic investigations were performed which include blood counts, renal function tests, CxR, ECG and an echocardiogram. Additional tests were decided by the condition of the patient and the procedure planned. For the

Dr. Duminda Samarasinghe (MBBS, DCH, MD)
Consultant Paediatric Cardiologist,
Lady Ridgeway Hospital for Children, Colombo, Sri Lanka
Email: dsamarasinghe@gmail.com

procedure, some form of anaesthesia is given, ranging from local anaesthesia with sedation to general anaesthesia. The decision on the degree of anaesthesia is governed by the age of the patient, the planned procedure and it expected complications, the general condition of the patient and the preference and experience of the centre. At Lady Ridgeway Hospital, Ketamine and Midazolam are the preferred anesthetic agents for most of the diagnostic and therapeutic cardiac catheterisations. Then arterial and venous access is obtained and in almost all patients at our centre it is femoral artery and vein except in rare cases where femoral access is not available or some other access is specifically needed for the procedure. Heparin 50-100 units/kg body weight is given to prevent thromboembolic events during the procedure. A basic hemodynamic assessment is done depending on the lesion and anatomy is delineated using angiograms if required. Depending on this information and information obtained on echocardiography, the procedure is planned and carried out using appropriate equipment. Upon successful completion, the patient is sent to recovery area where sheaths placed to obtain access were removed and haemostasis achieved using direct compression of the puncture site. Once the bleeding is under control patient is sent to the ward and kept under observation before being discharged on the following day.

Transcatheter Vs Surgery

Most of the patients with congenital heart diseases can be completely treated in a single stage but some need palliation as in preparation for full correction or to prolong life. Some of these lesions can be treated or palliated in the catheterisation laboratory without sending the patient to the operating theatre. There are many advantageous of transcatheter interventions over surgery. These include minimal anaesthesia, absence of a surgical scar, no ICU stay, no ventilation, minimal pain, no cardiopulmonary bypass, no blood transfusions, less procedure duration and minimal hospital stay. Main disadvantage was the cost of the procedure but with many competitive products in the market this also has come down to comparable levels over past few years. However there are still many cardiac conditions that cannot be treated in the catheterisation laboratory and these patients need surgical treatment.

Transcatheter interventions

Transcatheter interventions in congenital heart disease can be basically categorized in to dilatation of stenosed valves or vessels, closure of shunts, creation of holes/shunts and replacement of damaged valves. Most of the dilatations of valves or vessels and closure of shunts are definitive procedures and patients do not need surgical intervention. However creation of holes and shunts like balloon atrial septostomy and stenting of PDA are palliative procedures to improve oxygenation and growth of pulmonary arteries and these patients will need further surgical procedure as definitive treatment.

Dilatation of stenosed valves or vessels

Pulmonary stenosis

Pulmonary valve is the least likely valve to be affected by acquired heart diseases and virtually all cases of pulmonary stenosis are congenital in origin. Stenosis is usually due to fusion of valve leaflets and by dilating with a balloon it is possible to split along the fused commissures in most of the cases. Symptoms are unlikely even with severe pulmonary stenosis. If there is an associated patent foramen ovale or a VSD patient may become cyanosed due to right to left shunting. This also can lead to paradoxical embolisation. With severe exertion in the presence of severe pulmonary stenosis, if there is no shunt at atrial or ventricular level, patient may get syncopal episodes or light

headedness due to low cardiac output as less blood will flow in to left atrium and left ventricle through the stenosed pulmonary valve. Long standing untreated severe pulmonary stenosis can lead to right ventricular failure.

Pulmonary stenosis can be readily diagnosed with echocardiography. Balloon pulmonary valvotomy is generally recommended for patients with right ventricle to pulmonary artery pressure gradient of at least 40mmHg. It is also recommended for lower gradients if the patient is symptomatic. Although long-term follow-up of pulmonary balloon valvotomy is not yet available, the midterm results suggest that the long-term results will be similar to surgical valvotomy[6], with little or no recurrence on long term follow up. Some degree of pulmonary regurgitation occurs invariably and is not clinically important. Balloon Pulmonary valvotomy is a very low risk procedure but complications like rupture of right ventricular outflow tract has been reported. After balloon valvotomy these patients need follow up to assess re-stenosis and degree of regurgitation.

Pulmonary atresia with intact ventricular septum

This is the most severe form of pulmonary stenosis where pulmonary valve is atretic and there is no ventricular septal defect. Right ventricle gets severely hypertrophied as there is no outflow from the ventricle. If the right ventricular cavity is of acceptable size and if there are no contraindications like right ventricle dependent coronaries, pulmonary valve can be perforated with a guidewire or using a specially designed radiofrequency catheter. Following perforation balloon dilatation can be done to open up the pulmonary valve (Figure 1). This may enable the child to function as normal with both ventricles functioning. However this is a condition with very high mortality.

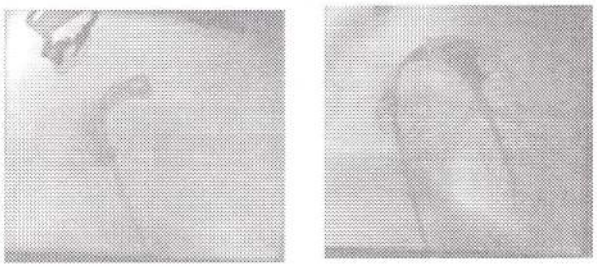


Figure 1: Right ventricular angiograms in Pulmonary atresia with intact ventricular septum before and after perforation

Aortic stenosis

Aortic stenosis is commonly associated with bicuspid aortic valve and is usually due to fusion of one of the commissures between the three valve leaflets. Symptoms like exertional dyspnoea, chest pain or syncope indicate severe aortic stenosis which can ultimately lead to congestive cardiac failure. Aortic stenosis usually responds well to balloon dilatation but there is always a risk of significant aortic regurgitation following balloon dilatation, which can lead to significant drop in diastolic pressure and compromise in coronary perfusion. Therefore these patients need meticulous assessment on suitability for balloon valvotomy before the procedure. This can be done using echocardiography during which valve leaflet anatomy and fusion can be assessed. Only patients with clear indications and those with suitable anatomy should be subjected to balloon valvotomy.

Coarctation

Coarctation of aorta is another congenital cardiac lesion which can be managed in catheterisation laboratory but there is much debate whether balloon dilatation or surgical correction is the best option for coarctation in childhood. The constricting shelf of native Coarctation can also be safely dilated using a balloon and it works by creating a limited dissection in the aortic intima and media. Many workers recommend balloon dilatation as therapy for native CoA[7]. However, the

rates of restenosis in neonates and infants are higher with balloon dilatation than with surgery. Balloon dilatation, however, can be used as a temporary measure to improve left ventricular function in patients with left ventricular dysfunction. As re-coarctation rate is high these patients need close follow up after the procedure.

Closure of shunts

Closure of Atrial Septal Defect

Out of the atrial septal defects only ostium secundum defects are suitable for closure using devices. Ostium primum or sinus venosus defects are not suitable for device closure as they do not have margins to hold the device all around the defect. There are many devices available for use but in Sri Lanka only Amplatzer type Nitinol double disc device is used. ASD closure is usually done around four years of age unless there are specific proven indications like significant failure to thrive, early pulmonary hypertension or recurrent lower respiratory infection. Unless for these specific indications device closure before four years is generally not advisable as complications of the procedure are higher in smaller children. All patients should take antiplatelet dose of Aspirin for a period of 6months after device closure to prevent thrombus formation on the device which can get embolised in to systemic circulation causing stroke. Studies have shown that device gets completely endothelialised within about 6months after implantation (Figure 2).

Closure of Ventricular Septal Defects

Transcatheter occlusion of peri membranous VSD is associated with complete heart block in approximately 5% of patients[8]. Therefore, the procedure is not recommended in children especially those weighing less than 10 kgs[9]. However, muscular VSDs can be closed using a device either transvenously or in smaller children using a hybrid procedure. In general most of the VSDs are closed surgically.

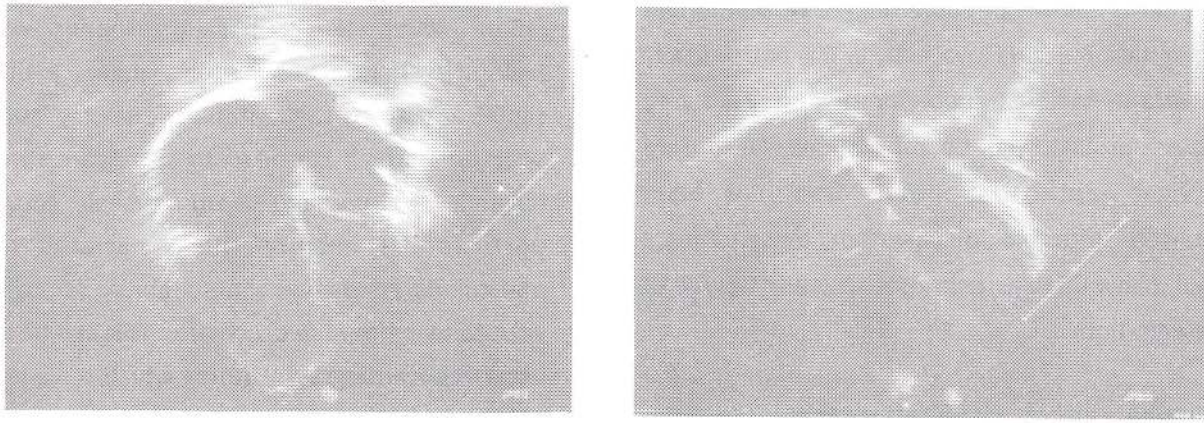


Figure 2: Echocardiogram of OS ASD before and after closure with a device

Closure of PDA

Majority of PDAs are closed in the catheterisation laboratory using either coils (Figure 3) or Amplatzer duct occlude type devices. Only haemodynamically significant PDAs, which lead to volume overload of the heart need closure. Usually haemodynamically significant PDAs are associated with a continuous murmur, unless there is pulmonary hypertension. PDAs without a clinically audible continuous murmur but detected on echocardiogram are haemodynamically insignificant and do not warrant closure. PDA closure can be done when the child is above 4-5kgs. However in bigger children success rate is higher and complications are less. Therefore children with

smaller PDAs, if there is no significant failure to thrive should wait until they are about 7-8kgs. Rarely a residual leak after coil or device closure can lead to intravascular hemolysis. If there is a residual leak the patient should be observed for evidence of intravascular hemolysis and recoiling should be done immediately if there is any evidence. Otherwise it can lead to severe anemia and even renal failure.

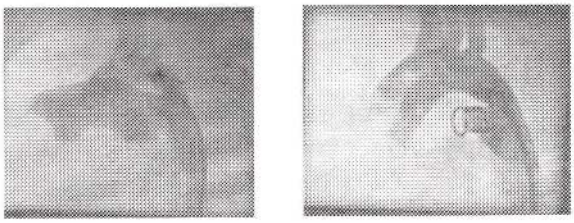


Figure 3: Aortic angiograms of PDA before and after closure using a coil

through the femoral vein in to left atrium via patent foramen ovale and rapidly pulled back in to the right atrium after full inflation, tearing the interatrial septum. This improves mixing at atrial level which leads to improved oxygenation. This procedure is also performed to relieve pressure in left atrium in complex congenital cardiac conditions with mitral stenosis, which lead to pulmonary hypertension due to high left atrial pressure.

Closure of other shunts

Other rare shunts like aorto-pulmonary window, coronary arteriovenous fistula, pulmonary arteriovenous fistula (Figure 4) and major aorto-

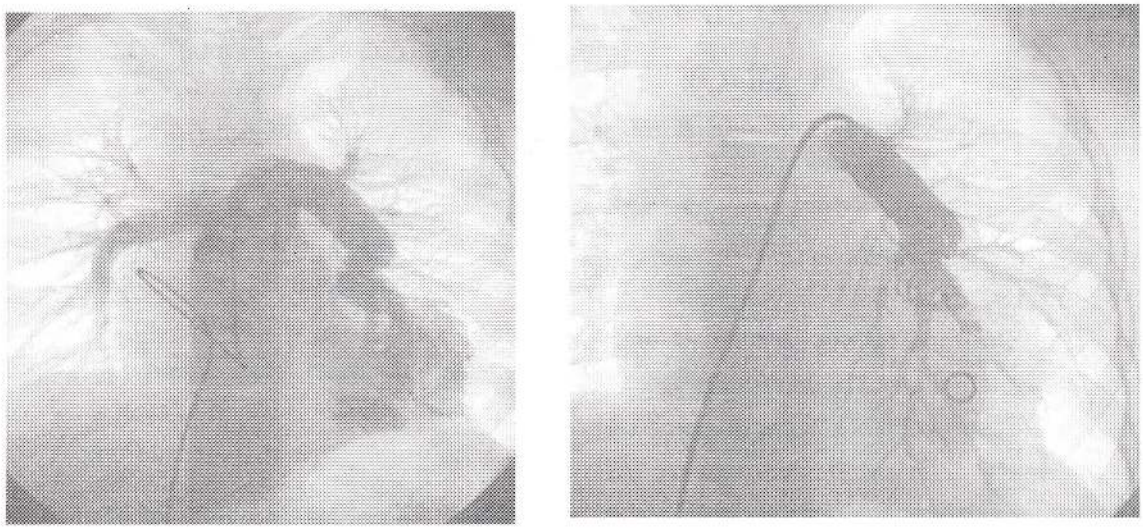


Figure 4: Pulmonary angiogram showing large pulmonary arterio-venous fistula in left lower lobe before and after closure using multiple coils

Palliative procedures

Certain palliative procedures can be performed in catheterisation laboratory specially to improve saturation in patients with significant cyanosis.

Balloon Atrial Septostomy

Balloon atrial septostomy is done to improve oxygen saturation in newborns with Transposition of Great Arteries. A balloon catheter is passed

pulmonary collaterals can be closed using coils or devices if anatomy is suitable for the procedure.

Stenting of PDA

In cyanotic congenital heart diseases with duct dependent pulmonary circulation, if the PDA is small and pulmonary blood flow is compromised this procedure can be performed. Usually a larger diameter coronary stent is used and stent is

positioned and dilated across the PDA through femoral or axillary arterial access. This procedure, by keeping the PDA widely open, helps to improve pulmonary blood flow, improve saturation and growth of pulmonary arteries thus making him a better candidate for definitive surgery.

Other newer interventions

Percutaneous valves are the latest addition to the transcatheter armament. These include valves for the pulmonary and aortic positions. Percutaneously placed mitral valve clips are used to repair mitral regurgitation. In addition there are newer hybrid procedures for hypoplastic left heart syndrome where PDA is stented to maintain systemic circulation and pulmonary arteries are banded to control pulmonary blood flow in preparation for univentricular type repair.

Hybrid procedures

During Hybrid procedure the cardiothoracic surgeon and the interventional cardiologist work together in the same setting to perform a procedure in a minimally invasive manner. The thorax is opened and direct access to heart is obtained by the cardiothoracic surgeon. The procedure is performed by the cardiologist with the help of the surgeon, usually under fluoroscopy or echocardiography guidance without going on cardiopulmonary bypass. Device closure of muscular VSD in small children and Norwood stage I for hypoplastic left heart syndrome are some of the procedures carried out in this manner. The advantages are the minimally invasive nature with minimal hospital stay, ability to perform interventions in very small children where arterial and venous access are issues and ability to avoid cardiopulmonary bypass and all of its associated risks.

Complications

Complications are rare but can occur during or after transcatheter interventions. These include those that are common to any type of transcatheter intervention and those that are specific to a given intervention. Complications that can occur with any type of intervention include access related isssues, arrhythmias, cardiac perforation, air embolism, thrombo-embolism, endocarditis and allergy to contrast media. Vascular access issues include hematoma formation, bleeding from puncture site, loss of distal pulse, venous thrombosis, dissection of blood vessels and rupture with internal bleeding. Specific problems related to procedures include device dislodgement and aortic erosion for ASD device closure, complete heart block for perimembranous VSD closure and coil/device dislodgement and hemolysis due to residual shunt for PDA closure.

Limitations of transcatheter interventions

One limiting factor is the need for larger diameter access sheaths in smaller children who have smaller diameter vessels. However most of the newer hardware is made in such a way that they can be used even in smaller children.

Major limiting factor in this part of the world is the cost of the devices and hardware used for these procedures. However in most of these conditions, when overall cost because of the long hospital stay and other associated issues related to surgery are taken in to consideration, transcatheter interventions are still cost effective.

References:

1. *Dotter CT, Judkins MP. Transluminal Treatment of Arteriosclerotic Obstruction. Description of a New Technic and a Preliminary Report of Its Application. Circulation 1964;30:654-70.*
2. *Rashkind WJ, Miller WW. Creation of an atrial septal defect without thoracotomy. A palliative approach to complete transposition of the great arteries. JAMA 1966;196:991-2.*
3. *Porstmann W, Wierny L, Warnke H. Closure of persistent ductus arteriosus without thoracotomy. Ger Med Mon 1967;12:259-61.*
4. *King TD, Thompson SL, Steiner C, Mills NL. Secundum atrial septal defect. Nonoperative closure during cardiac catheterization. JAMA 1976;235:2506-9.*
5. *Kan JS, White RI, Jr., Mitchell SE, Gardner TJ. Percutaneous balloon valvuloplasty: a new method for treating congenital pulmonary-valve stenosis. N Engl J Med 1982;307:540-2.*
6. *McCrindle BW. Independent predictors of long-term results after balloon pulmonary valvuloplasty. Valvuloplasty and Angioplasty of Congenital Anomalies (VACA) Registry Investigators. Circulation 1994;89:1751-9.*
7. *Ovaert C, Benson LN, Nykanen D, Freedom RM. Transcatheter treatment of coarctation of the aorta: a review. Pediatr Cardiol 1998;19:27-44; discussion 5-7.*
8. *Carminati M, Butera G, Chessa M, et al. Transcatheter closure of congenital ventricular septal defects: results of the European Registry. Eur Heart J 2007;28:2361-8.*
9. *Sullivan ID. Transcatheter closure of perimembranous ventricular septal defect: is the risk of heart block too high a price? Heart 2007;93:284-6.*

Ethics in medical practice

Codes of conduct for humans have been in existence since man evolved as a social being and started living in communities. Some of these codes have been as written laws while others have been unwritten laws.

The word "ethics" has its origin in the Greek word "Ethos" and it means character, norms, morals and ideals prevailing within a group or society. Ethics deals with morals and good conduct. Codes of ethics forms a system of moral principles or rules of behaviour that control or influences a person's behaviour. Ethical behaviour may be referred to some standardized forms of individual conduct or behaviour understood and accepted in a particular field of activity

The first code of ethics for doctors is said to have been developed by Hamurabi, a king of Babylon (around 2000 BC) and was termed the "Babylonian code of Hamurabi".

However Greek Medicine which flourished during the four centuries prior to the Birth of Christ gave an impetus to the development of medicine.
Ethics in medicine is today attributed to Hippocrates (460-370 BC). Hippocrates stressed on beneficence (an act of doing good), non-malfeasance (do no harm) and confidentiality (Malcolm A Fernando ,1999).

Dr. N. Sivarajah, MBBS, DPH, MD (com.med), Consultant and Coordinator WHO, nadarajahsivarajah@gmail.com

"Hippocratic oath" remains the keystone of medical ethics

At the Nuremberg trial, it transpired that prisoners were used for medical experimentation during the Second World War. This gave rise to the Nuremberg code around 1948 which stipulates that no humans may participate in any experiments unless freely consenting (informed consent).

Subsequently, the Helsinski declaration was adopted at the 18th World assembly held in Helsinski, Finland in 1964. This declaration was amended 6 times and the latest was in October 2008. This declaration states that "concern for the interests of the subject must always prevail over the interests of science and society, every patient including those of a control group, if any should be assured of the best proven diagnostic and therapeutic method"

Ethics has in the past been mainly concerned with research to prevent abuse of humans and animals in the name of research. Today ethics have become an important aspect of patient care, and a general code of behaviour.

The World Medical Association's declaration of Lisbon in October 1981, dealt with the rights of the patient. It declared that the physician should always act according to his or her conscience and always in the best interest of the patient. Equal effort must be made to guarantee patient

autonomy and justice. Whenever legislation, government action or any other administration or institution denies patients these rights, physicians should pursue appropriate means to assure or restore them.

The embodying principles include:

- Right to good quality medical care
- Right to freedom of choice
- Right to self-determination in conscious, unconscious and legally incompetent patients
- Procedures against patient's will
- Right to information
- Right to confidentiality
- Right to Health education
- Right to dignity
- Right to religious assistance to receive or decline

Professional ethics is necessary to define a framework of acceptable behaviour, follow high standards of practice, create benchmarks for self evaluation, enhance sense of community responsibility, create transparency in the work of organizations and patient care, foster higher standards of professional ethics and comply with state laws and norms

Unethical behaviour is usually caused by factors such as, lack of knowledge, stress, confusion, pressure to perform at expected levels and competition within an institution.

Professional ethics expects a doctor to behave with integrity. Integrity means

- to follow the rules
- where rules do not exist, to use fair judgment
- when in doubt not to go ahead and do what suits the person but to seek counsel
- to ask yourself "Can my act stand public scrutiny without causing embarrassment to me, my family, my colleagues or my institution

Six of the values that commonly apply to medical ethics discussions are:

1. *Autonomy* - the patient has the right to refuse or choose their treatment.
2. *Beneficence* - a practitioner should act in the best interest of the patient.
3. *Non-maleficence* - first, do no harm.
4. *Justice* - concerns the distribution of scarce health resources, and the decision of who gets what treatment (fairness and equality).
5. *Dignity* - the patient (and the person treating the patient) have the right to dignity.
6. *Truthfulness* and *honesty* - the concept of *informed consent* has increased in importance

Values such as these do not give answers as to how to handle a particular situation, but provide a useful framework for understanding conflicts.

Certain standards of conduct have to be observed by doctors. (World Medical association, 2009). They include:

- *Cultural sensitivity*: Doctors should be sensitive to cultures of the people with whom they work and treat, and respect their local customs
- *Respect for colleagues and others*: Colleagues, other staff and patients should be treated with dignity and respect. They should never be harassed.
- *Respect for National laws* is essential
- *Personal relationships* with colleagues or other staff may be acceptable but should not create embarrassment or make other uncomfortable. But personal relationships with patients should be avoided when they are under your care.

The world Medical Association has published a manual (World Medical Association Inc., 2009) which deals with the Physicians relationship with patients, colleagues and the society. It also deals with his role in research

What do you achieve by being ethical?

- *Inner benefit*: Virtue is its own reward
- *Personal advantage*: It is prudent to be ethical. It's good business
- *Approval:* Being ethical leads to self esteem, the admiration of loved ones and the respect of peers
- *Religion*: Moral behaviour is in line with the precepts of all religions

- *Habit*: Ethical actions can fit in with upbringing or training

Today, ethics is being practiced in the day to day activities. Institutions like the United Nations have Institutional ethics based on principles of ethical behaviour, to be followed by all employees. This includes professional conduct, Integrity, prevention of harassment, prevention of fraud, cultural sensitivity, respect for colleagues and treatment of their colleagues and other staff with dignity and respect. The institutional ethical codes of these institutions deal even with romance in the workplace, conduct of family and household members and smoking and use of alcohol. The staff is made accountable for their actions and breach of these standards may invite disciplinary action.

All employees are expected to sign their acknowledgement and agreement of the code of conduct in their initial offer of appointment.

Hippocrates himself went beyond patient care and included ethical considerations regarding their teachers, the teacher's offspring's and colleagues It is time that medical personal (including undergraduates) also develop codes of conduct for the institutions where they practice. Today we are preoccupied with ethics in patient care and research. Although this is important and a must, we should also concentrate on ethical behaviour of physicians regarding relationships with colleagues, students, other staff and society. It is also necessary to establish codes of conduct regarding integrity, personal behaviour & decision making, and character.

It may be useful to draw up an *institutional code of ethics* for all staff in each medical institution with an ethical monitoring committee to monitor the practice of the ethical principles in every institution.

References:

Malcolm A Fernando (1999). Ethics in Survey Research. Journal of the College of Community Physicians of Sri Lanka. Vol: 4 .

World Medical Association (2009). Medical ethics Manual. 2nd Edition. World Medical Association

JMA forum

Risk management in health practice

"All men make mistakes, but only wise men learn from their mistakes." Sir Winston Churchill

Date: 24 June 1982 Time: 13:40 UTC, Place: Mid Air, at 37000ft, over Jakarta Indonesia, British Airways, on the way to NewZealand from London. Suddenly the smooth ride turns into violent jerky drops. The pilot announces the ever worst nightmare of any air traveller." ladies and Gentlemen, we are in a crisis, all of our 4 engines have failed, and we will be making an emergency landing soon. You can imagine the chaos and the panic. Passengers started praying, others wrote notes for their loved ones. Fortunately on descent engines restarted and the plane had an uneventful landing. All were safe, no physical injuries, although many are mentally traumatized. As there were no causalities or major disaster this incidence has been forgotten by the world. But if the Airline Industry had acted in the same way and if this incident hadn't been investigated ,we wouldn't had those major flight disruption early this year in Europe, Instead we would have lost couple of planes and thousands of lives. The investigation into incident in 1989 lead to the invention of the catastrophic effects of volcanic ash on plane engines, and lead to safety measures of avoidance of flights near volcanic ashes. This is a clear example to show how the near misses are investigated in airline industry to prevent mishaps.

Aviation Industry is considered to be the pioneers of advanced risk management process. Aircraft incidents are rare but often involve in massive loss of life, resulting in exhaustive investigations into causal factors, public reports and remedial action. Many lessons are learned and followed in Medicine from...

Idea of this article is to provide some background information about risk management and to do some brainstorming to work out for a possible risk management strategy locally, by analyzing the western model and looking where we are. Even though this article mainly focuses the obstetrics the key principles are the same for all medical specialties.

Clinical Risk Management (CRM) is an approach to improving the quality and safe delivery of health care by placing special emphasis on identifying circumstances that put patients at risk of harm, and Acting to prevent or control those risks. The Royal College of Obstetricians and Gynaecologists define risk management as "Methods for the early identification of adverse events, using either staff reports or systematic screening of records; it is an approach to improving the quality of care which places special emphasis on care episodes with unexpected outcomes" (1) or simply saying "Not getting things wrong".

Dr.S.Navaneethan. MS,MRCOG,FRANZCOG .
Clinical Director &Specialist O &G .Griffith Base Hosptal,NSW

Why bother with risk management

McNeill & Walton's article reasons the importance of managing risk, these include:

- Reducing patient harm and dissatisfaction preventing wastage of resources (staff, time and money)
- Protecting from liability and litigation Protecting from bad publicity

Making staff aware that there is a spectrum of outcome Improving morale by making organisation more safety conscious

- Ranking of risks
- More explicit and justifiable decision making

Components of Risk Management

Within a health care context risk management has several stages:
1. Risk identification 2 Risk analysis 3 Risk control & Risk funding

1. Risk identification

By identifying what things go wrong and how they go wrong we can start to understand the relationship between the environment and clinical practice. Risk can happen through single factors or a combination of what seem to be unrelated issues. There are many sources of information are be used in order to understand the risk involved in health care. These include:

a. Clinical Indicators: Indicators are a measure of the clinical management and outcome of care, objectively measuring the process or outcome of care in quantitative terms Indicators can act as flags, tells where there are problems or issues in patient care. In Srilanka the main source of indicators in obstetrics is .Annual Health Bulletin published by the health department. Despite the fact this is a valuable resource, data are usually under reported and lacks in in-depth analysis.

b. Incident monitoring & Adverse and sentinel events: An incident is "An unplanned event resulting in or having the potential for injury, ill health damage or other loss". An adverse or Sentinel event is "an incident in which harm resulted to a person receiving health care", (3) In developed countries, there are several ways in which incidents are monitored, this happens at both state and federal level .Each hospital/area Health service have their own system for incident monitoring. The data collected from such incidents is reported to State departments of health, insurance companies and federal government.

We need to realise that a proper Incident monitoring system is the key for a standard Risk Management process. Probably only mechanism by which we do risk identification locally is by reporting maternal deaths (which is a sentinel event), data of which are collected and analysed at various levels. As most of the incidents are not fatal we are missing most of the vital data and analysing only the tip of the Iceberg.

c. Limited Outcome Occurrence Screening: Adverse events are also identified by doing a retrospective search of hospital-based information, using selection criteria. Using this method helps in identifying past events that staff may be unaware of, and requires dedicated time and administrative support.

We hardly perform any retrospective searches or surveys to identify risks .Limited documentation, time, human resources and findings are always a barrier for screening & surveys.

E. Patient complaints: By looking at patient complaints, we can see where things are not working properly and identify issues where patient complaints can turn into possible litigation the way in which patient complaints are dealt with, by taking them seriously, responding quickly and sensitively may help solve things earlier preventing them from escalating into legal action.

Regrettably the process of complaint management processes is often looked as a threat to medical community and is dealt with hatred. True, it causes stress to staff, but the lessons you learn could be very benifilcial, and save you from a disaster of larger scale than the current one.

2. Risk analyses

Analysing several sources of data provide a rich source of information that is used in the analysis phase. When incidents have been identified, they are analysed in order to establish how often they happen and what their effects might be. By doing this risky areas are identified to concentrate and focus attention on getting these aspects of care right this analysis on a grand scale are used hospital or state level to inform strategies and initiatives across services. This type of analysis can be helpful in informing training and guideline development.

Root Cause Analysis: Root cause analysis (RCA) is a popular way of understanding what goes wrong, so that people can learn from adverse events in order to prevent them happening again. There is a range of tools that are used within the context of carrying out a root cause analysis

Again only occasion we go closer to RCA is when a maternal death occurs or when a complaint arises .Some times we do analyse cases in perinatal mortality meetings, but in depth analysis are rare.

3. Risk Control & Risk funding

Once the risk have been identified and analysed, it is considered how they can be avoided, reduced, transferred or eliminated. This can be through physical and systems controls, but also requires an understanding of how doctors interact with patients and members of the multidisciplinary team.

Technical and human errors play a large part in incidents and adverse events, and can often be pinpointed so that they can be controlled. Some risk can never be completely eliminated, but we can work towards reducing the likelihood of it arising.

Much of risk control activity is about changing practice; this is a challenge and can take place on different time scales, using different techniques:

- Immediate: protocols and guidelines
- Medium Term: environmental change, process re-engineering
- Long term: cultural and attitude change

Communication :Communication and attitude are aspects of health care delivery are critical in influencing patient relationships and their propensity to complain and even litigate .Majority of claims made are against doctors can be traced back to communication problems. This is an important area we need to concentrate. Locally we have to confess that our communication with patients /relations is very minimal, and often patients are hardly aware of whets really going on.

Team issues: Operating within a team environment makes staff communication errors. Recognising that communication and stress within the team can lead to mistakes is important and can be improved through changing the hierarchical nature of the work environment and the ways staffs interacts.

System factors: The processes and way we organise health care are considered to be 'systems'. The ways in which systems operate or fail abysmally are often the factors that lead to adverse events. This can range from equipment failure to protocols not being followed.

Equipment failure: Checking and maintaining tools and equipment of procedures is often overlooked, or there is no schedule for regular servicing.

Guidelines, protocols and standards: One common factor mentioned during litigation against doctors is a failure to follow the guidelines or local protocols. Guidelines are often cited as standard or accepted practice

Documentation: Poor quality of documentation is an oft-cited reason why many doctors and Medical defence organisations unable to defend claims. Providing clear, legible and understandable documentation covers people involved when things go wrong and helps others understand what happened during a patient episode. Relying in memory may be inadequate, especially recalling the details of a case that happened years.

We need to cherish the culture of proper documentation and proper record keeping very early from medical student's time to interns.
Professionals and the hospitals need to consider how the residual risk is paid for and the available money is best spent.

Different models are practiced world wide but the concepts are the same. There are seven key steps to effective incident management:

1. Identification
2. Notification
3. Prioritisation
4. Investigation
5. Classification
6. Analysis and Action; and
7. Feedback.

1 Step 1 Identification: Staff recognises an incident .Following identification of an incident or near miss there may be a need for an immediate action. These actions may include

- providing immediate care to individuals involved in the event (patient, staff or visitors) making the situation/scene safe to prevent immediate recurrence of the event
- removing malfunctioning equipment or supplies
- gathering basic information about a chain of evidence Or notifying police and security.

Step 2 Notification :Staff are required to notify all identified incidents, near misses and complaints in the Incident Information Management System(IIMS).In west Most of the Health services have computerised information system in which health staff make entries whenever encounter incidents. This system ensures and promotes all incidents are dealt appropriately.

2.1 Documentation of the incident in the health record

2.2 Incident notifications in IIMS by the Notifier
This must occur as soon as possible .The notifier can be identified or anonymous, apart from workplace injury notification. The notifier is asked to undertake an initial assessment of severity of the incident using the Severity Assessment Code (SAC) Matrix and give their opinion of how the incident may have been prevented.

The patient and/or their family or carer can notify an incident through the complaints management process in place in each health service.

2.3 Incident notification Management responsibility The manager reviews the IIMS notification, completes the IIMS management screen, and either allocates or confirms the SAC score according to the actual incident or near miss.

2.4 Notification to Patient (Open Disclosure)
All SAC 1 and 2 events (Those with serious outcome, such as patient death, severe bodily harm) are to be accompanied by the full open disclosure process within 24 hours of the incident, by the health care professional responsible for the care of the patient. When an actual clinical incident occurs to a patient, an integral component of the notification process is to acknowledge the occurrence of the incident to the patient and their support person, as appropriate and to inform them of the type of investigation that will be undertaken an apology for the incident suffered is given at this stage.

Step 3 Prioritisation: The purpose of prioritisation is to ensure that a standardised, objective measure of severity is allocated to each incident or near miss. This enables an appropriate level of investigation to be conducted. The Severity Assessment Code (SAC) is used to prioritise all notifications. The SAC is a matrix that takes into account both the consequences of the incident (or near miss), and the likelihood of recurrence of the incident (or near miss) to apply a numerical rating. The SAC score guides the level of investigation and the need for additional notification All Severity Assessment Code (SAC) 1 incidents are escalated to the Chief Executive of the organisation.

Step 4 Investigation: Investigation of the incident is an important component of any patient safety program. All incidents notified in IIMS require an investigation. All clinical SAC 1 incidents must have the final RCA report completed and submitted to the Department within 70 calendar days from the notification of the incident in IIMS. All corporate SAC 1 Incidents must have a detailed investigation completed and a report submitted to the Department within 70 calendar days from the notification of the incident in IIMS.

Levels of investigation

All notified incidents require a review to assess the level of investigation required. The SAC score guides the level of investigation. Depending on the SAC code investigations are performed at different levels all clinical SAC 1 incidents require a privileged Root Cause Analysis (RCA) investigation.

Step 5 Classification: This is the process of capturing relevant information from a range of perspectives about an incident to ensure that the complete nature of the incident, including causative and contributory factors, is documented and understood. Classification of all incidents involving patients, staff, visitors, volunteers, contractors or corporate

Step 6 Analysis and Action: The purpose of analysis is to understand how and why the incident occurred, and to identify ways of preventing a recurrence. Actions and recommendations are developed to prevent recurrence of the incident. A suitable timeframe for the implementation of recommendations is documented in IIMS. Senior management is responsible for deciding whether recommendations are accepted and approved and for appropriate resource allocation. A senior manager records the acceptance of recommendations and/or comments in IIMS once the recommendations have been approved by the CE, The IIMS system is used to capture actions and recommendations, and to flag follow up and review dates .Ongoing monitoring is required to ensure recommendations are addressed in a timely manner and to evaluate the success of any action taken to achieve improvement.

Step 7 Feedback following investigation

Feedback is an important component of a successful incident management program.

7.1 Feedback to Patients and/or Support Person (Open Disclosure)

Information about SAC 1 and SAC 2 clinical incidents e offered to the patient and / or their support person. The information provided to the patient and / or their support person can be based on a variety of sources.

7.2 Feedback to Staff

The success of incident management is dependent on feedback to all staff on the results/outcomes of investigations in a timely manner. Staff involved in the incident need to be informed of the recommendations arising from any investigation. The final RCA Report provides the basis for feedback on a clinical SAC 1 clinical incident. The findings of the Clinical SAC 1 RCA Report should be provided to the relevant clinical team and presented at relevant staff meetings. Feedback needs to include he changes made and

improvements achieved as a result of these changes.

Sri Lanka we have to confess that our risk identifying sources are quite limited and poorly developed. Risk identification is the first step in Risk Management. We do have the statistics through Health department and MMR analysis through various bodies. But unfortunately they are under reported and poorly analysed to yield any productive changes. Maternal morbidity & mortality meetings are often places to justify the management of the particular patients rather than deploring the causes and future preventions. Regular reporting and review of incidents in books is equally effective to a computerized system, if followed honestly. It is important a proper root cause analysis (RCA) system is developed to identify the causes of incidents. Expert reviews in each incident cannot be over emphasized.

The area of Risk management should be included in professional development programmes and trainings programmes for medical staff and administrators. In hospitals a person who has experience and training should lead and guide the risk management team. A risk management officer for hospital will be ideal but for us is a luxury.

Scepticism and thoughts that these procedures are unnecessary are sometimes views from old schools, who would say that their clinical performances are more important than the paper clutters. Well, this has been possible until recently, when Litigation in Medical practice hasn't been a burning issue in Srilanka. But this will change and this safe haven may not last longer. But apart from this we have the moral obligation to provide better care for those who place their trust on us. This cannot be possible without a proper risk management system, and this has been time tested in western world.

References

1. *Royal College of Obstetricians and Gynaecologists (1999). Royal College of Obstetricians and Gynaecologists and Clinical Governance. London, RCOG Press.*
2. *AROMA Project RANZCOG*
3. *Australian Quality and Safety Council (2001) Adverse Event: shared meanings. 2001, Australian Quality and Safety Council*

Clinical therapeutics

Prevention and treatment of venous thromboembolism in pregnancy and the postpartum period

Introduction

Venous thromboembolisms (VTE) complicated 0.5-3/1000 pregnancies, approximately four times greater than in the non-pregnant population. It occurs with equal frequency in all three trimesters and in the postpartum period and in a woman who has had a previous VTE, the recurrence risk can be as high as 12%. VTE can be a cause of significant morbidity and mortality stemming from extension of a deep vein thrombosis (DVT) or the development of a pulmonary embolus (PE). PE can compromise oxygenation and lead to hypotension and sudden death.

Kent et al, 2000. Reproduced free of charge with permission from the SOGC.

Risk Factors for Thromboembolism
- Previous VTE
- Age > 35
- Obesity
- Infection
- Bedrest/physical immobility
- Shock/dehydration
- Caesarean section
- Operative vaginal delivery
- Uterine instrumentation
- Pelvic surgery in the peripartum period
- Active cancer or cancer treated within the last 6 months
- Alternative diagnosis more likely than DVT (eg. Baker's cyst, cellulitis, muscle damage, post phlebitic syndrome, inguinal lymphadenopathy, external venous compression)

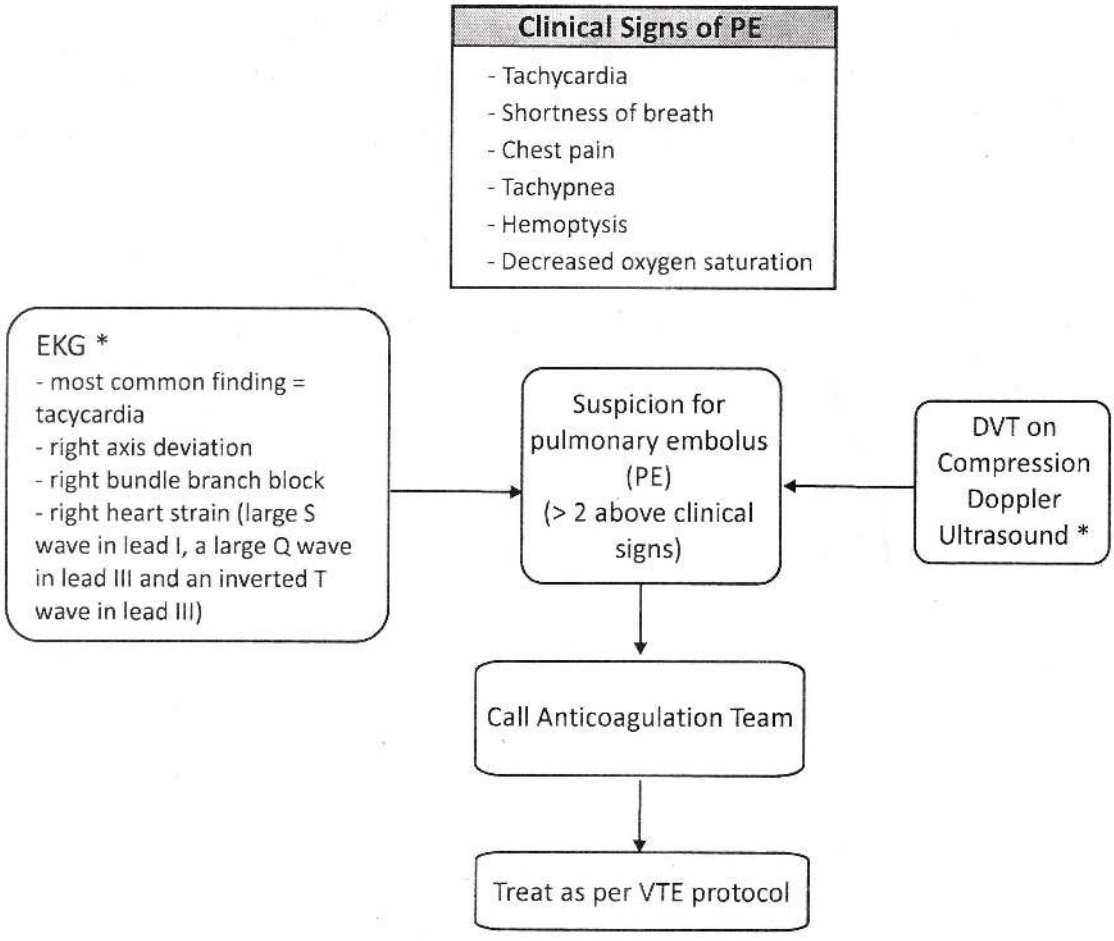
Dr.Karthika Devarajan
Post Graduate Year 4, OBS/GYN,
Mount Sinai Hospital, Toronto, Ontario, Canada.

Diagnosis

Clinical Signs of DVT	Clinical Signs of PE
- Localised tenderness in the calf	- Tachycardia
- One calf 3cm greater than the other measured at 10 cm below the tibial tuberosity	- Shortness of breath - Chest pain
- Erythema in the calf	- Tachypnea
- Warmth in the calf	- Hemoptysis
- Pitting edema confined to the symptomatic leg	- Decreased oxygen saturation

Risk factors in addition to clinical signs help make the diagnosis of thromboembolism. The diagnostic test of choice for a DVT is compression doppler ultrasound. If there are 2 or more clinical signs of PE, it would be reasonable to treat based on clinical suspicion. EKG findings (see Diagnosis of Pulmonary Embolism figure) and a DVT on compression doppler ultrasound can strengthen your suspicion of PE, but a normal EKG or a normal compression doppler ultrasound does not rule out a PE if you have a strong clinical suspicion.

Figure - 1 Diagnosis of Pulmonary Embolism



* These findings can help strengthen a suspicion of PE, but a normal EKG or a normal Compression Doppler Ultrasound does not rule out a PE if you have a strong clinical suspicion.

Treatment

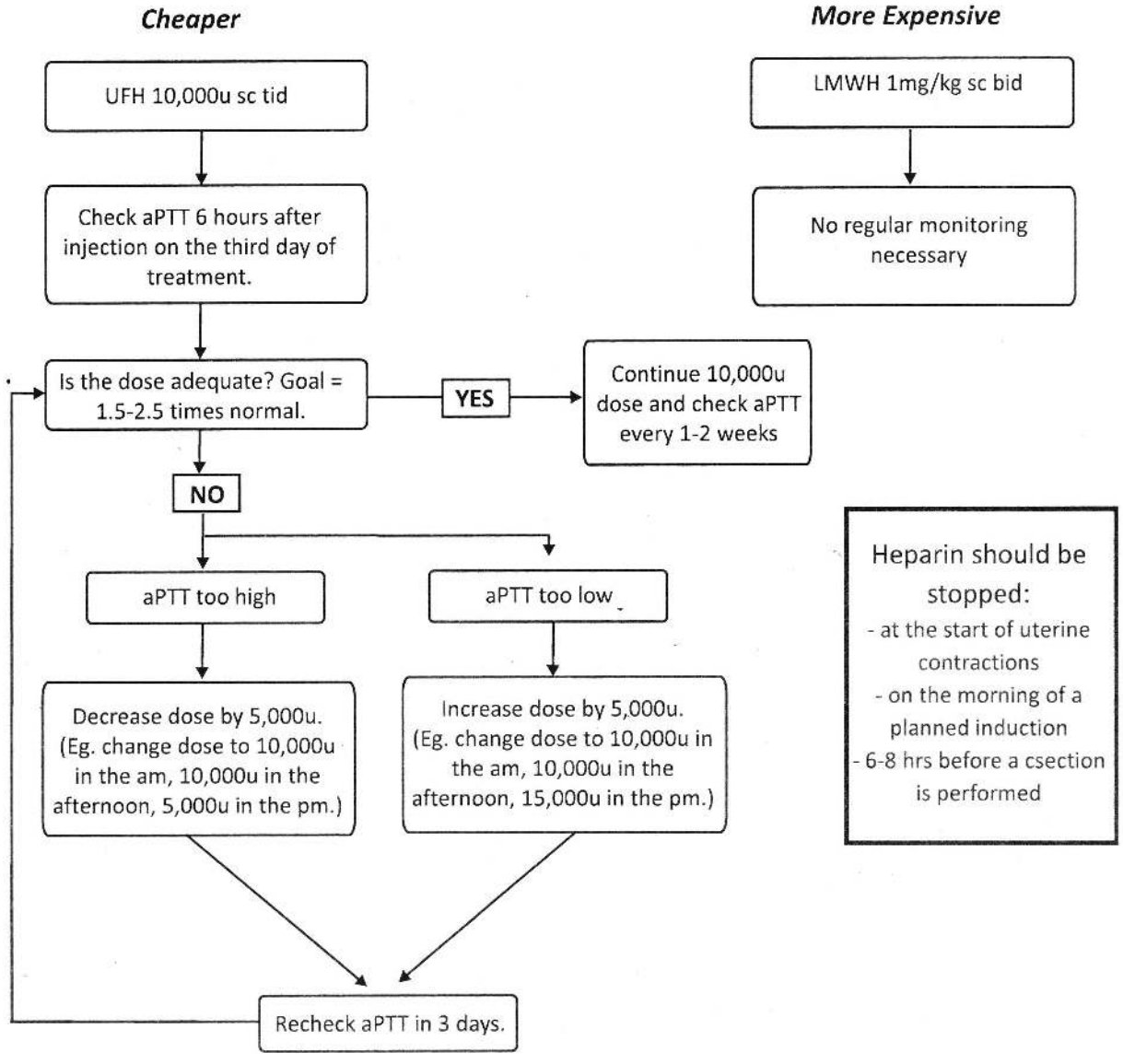
There are no large trials on anticoagulation in pregnancy, however expert opinion agrees that the prophylactic and therapeutic anticoagulant of choice in pregnancy is low molecular weight heparin (LMWH). However, in resource poor countries, unfractionated heparin (UFH) is a reasonable substitute. Much of the data for warfarin in pregnancy comes from women with mechanical heart valves, where warfarin appears to offer a superior anticoagulant effect compared to heparin. While congenital anomalies in response to warfarin in between 6 -12 weeks gestation is well established, there is evidence to suggest that the risk of congenital deformities is low after 12 weeks especially with doses of warfarin less than 5mg. However, warfarin is known to anticoagulate the fetus which can lead to intracranial bleeding in the infant in the event of labour while on warfarin. In a setting without rigorous antenatal follow-up to allow the safe transition to heparin prior to labour, it is not advisable to use warfarin in pregnancy. In addition, there is a small risk of CNS abnormalities with warfarin use in all trimesters. Although this risk is low, UFH is not associated with these fetal issues and remains the drug of choice in pregnancy if LMWH is not available.

Acute VTE in pregnancy should be treated with UFH 10,000u sc tid. Check the aPPT 6 hours after injection on the 3rd day. The goal is to have a

therapeutic level of 1.5 - 2.5 times normal. If the dose needs to be adjusted, it should be done in increments of 5,000u (see Management of VTE figure). If the patient can afford it, she can be started on LMWH 1mg/kg sc bid instead. Women with a DVT or PE should be anticoagulated throughout pregnancy and for 6 months postpartum.

Figure - 2 Management of VTE

THIS SHOULD BE MANAGED BY AN ANTICOAGULATION TEAM



Intrapartum Management

- Patient should stop anticoagulation:
  - at the start of uterine contractions
  - on the morning of a planned induction
  - 6-8 hours before a c-section is performed

Antidote

In the event of aPTT higher than therapeutic values, 1mg of protamine sulphate neutralises 100U of heparin. Maximum dose 50mg over 15 minutes.

Postpartum Treatment

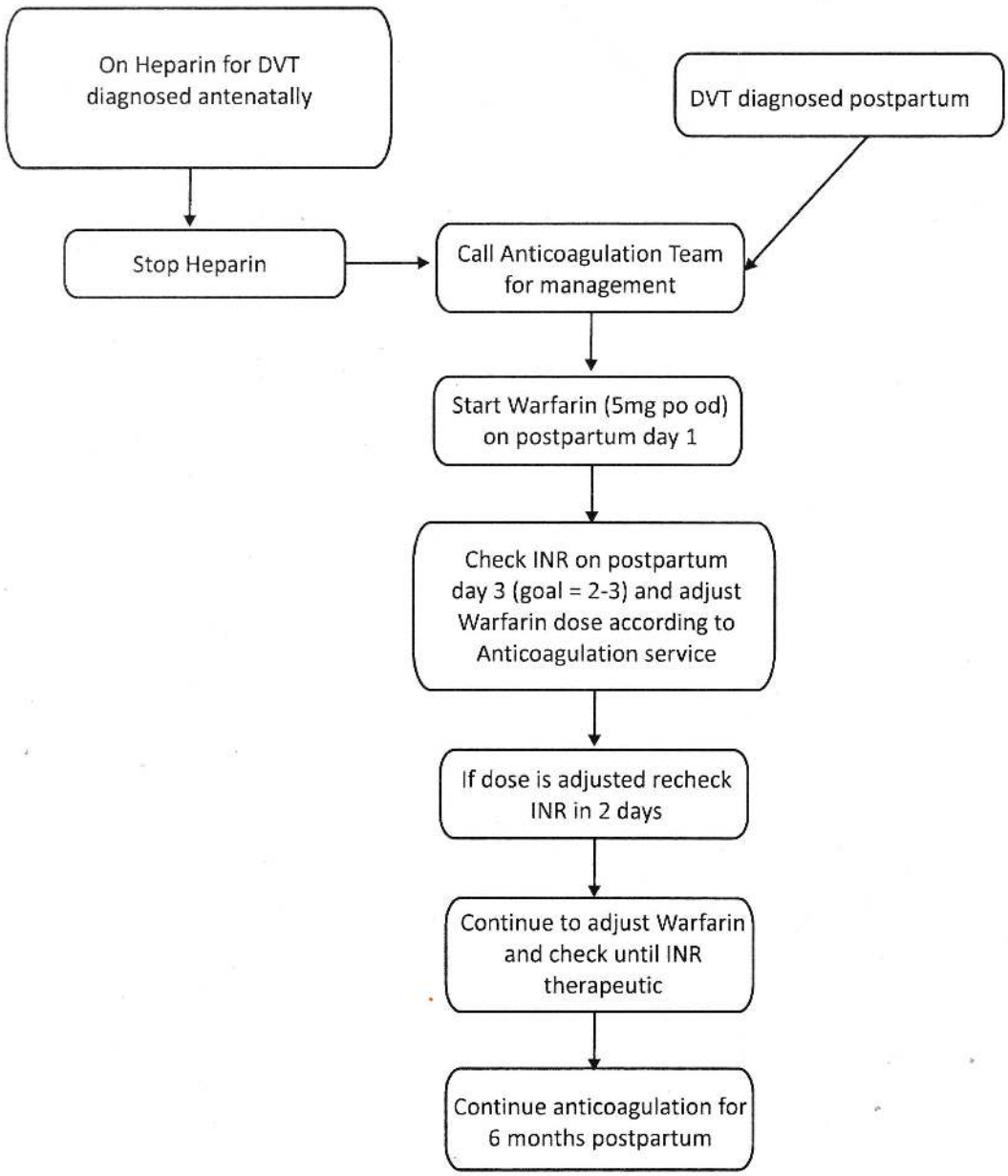
Both Heparin and Warfarin are safe in breast feeding, however as Warfarin is cheaper, it is the anticoagulant of choice postpartum. Warfarin should be started on the day following delivery (5mg po daily on day 1 and 2). INR should be checked on day 3 and the dose of Warfarin should be adjusted to keep the INR between 2-3 (see Postpartum Treatment figure) Postpartum anticoagulation should be continued for 6 months postpartum.

Thromboprophylaxis in Obstetrics

A) Women with prior history of VTE

There is a 12% recurrence risk for VTE. Although the data is controversial, we recommend one of the following prophylactic anticoagulation regimes during the pregnancy and for 6 weeks postpartum in women who have had a previous VTE. UFH 5,000u sc q12 hours should be used in first trimester, 7,500u sc q12 hours in the second trimester and 10,000u sc q12 hours in the third trimester.

Figure 3 Postpartum Treatment



B) Following a c-section

Despite the lack of prospective trials, many Obstetrical Societies recommend the use of prophylactic anticoagulation following a c-section in the presence of risk factors such as obesity, previous VTE or a history of prolonged immobility (greater than 3 days). UFH 5000u sc q12 hours should be used until fully mobile.

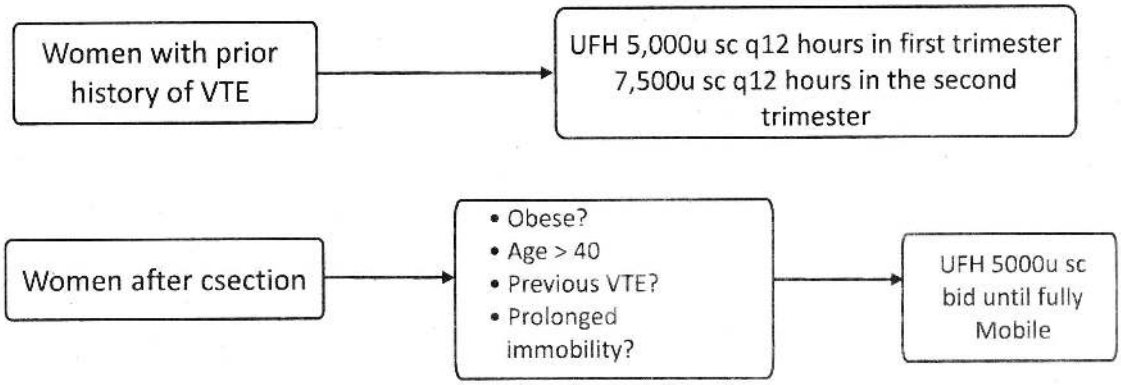
Thromboprophylaxis in Gynecology

Women with a prior history of cancer should be started on Heparin 5000u sc tid.

Interactions

Warfarin interacts with ARV and these patients should be followed more closely at the anticoagulation clinic.

Figure 4 DVT Prophylaxis in Obstetrics



DVT Prophylaxis in Gynecology

More than 4 points required prophylaxis with UFH 5000u sc bid until fully ambulating
Major risk factors (3 pts each)
- Cancer - prior VTE
Intermediate risk factor (2 pts)
– abdominal surgery > 30min
Minor risk factors (1 pt each)
Advanced age (>70 years) – Obesity (BMI> 29) – Hormone replacement therapy or oral contraceptives – Immobility

NOTE: Women with history of cancer should have 5000u sc tid

Figure 5 Pregnant Women Who Present to Care on Warfarin

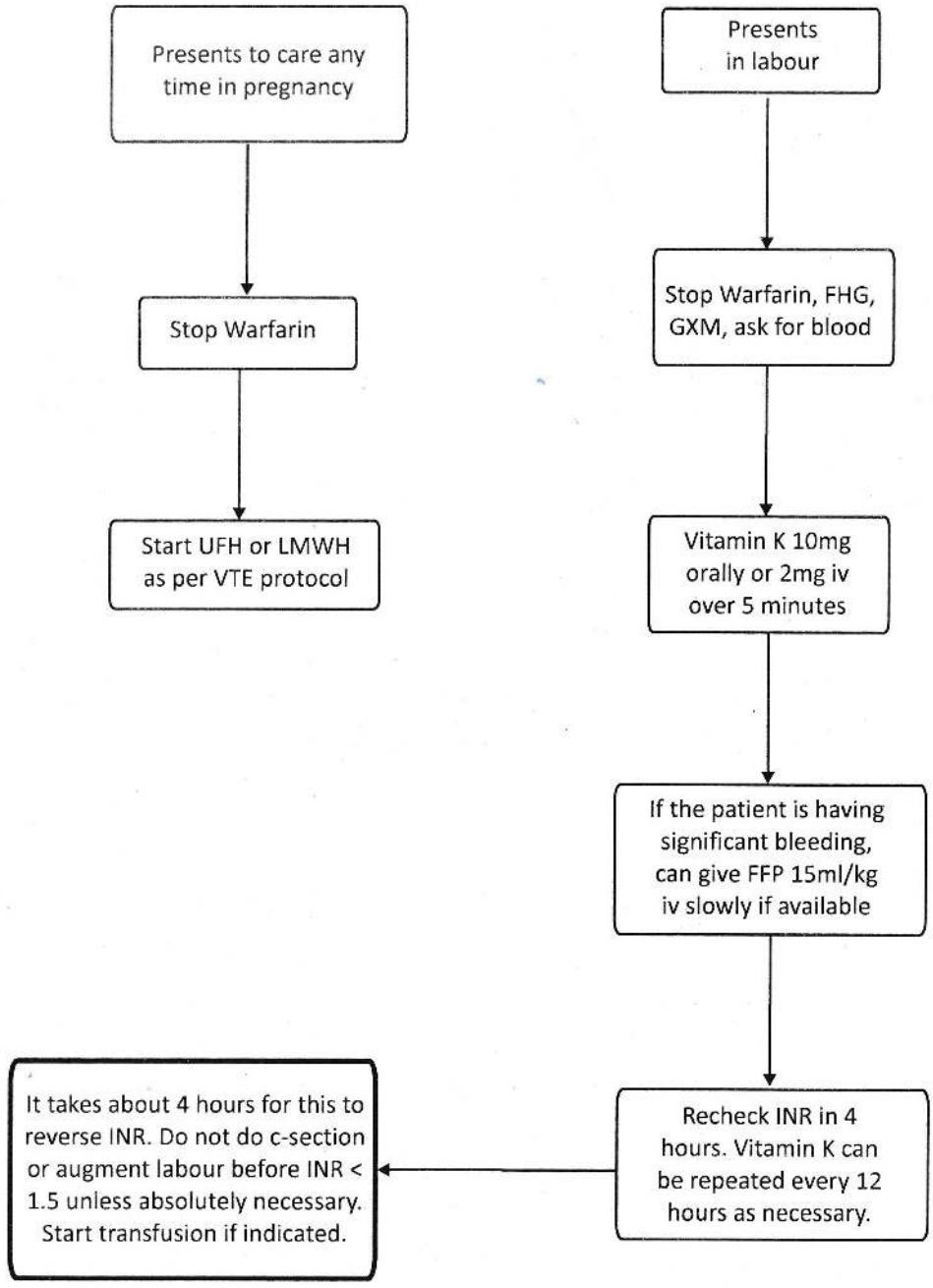
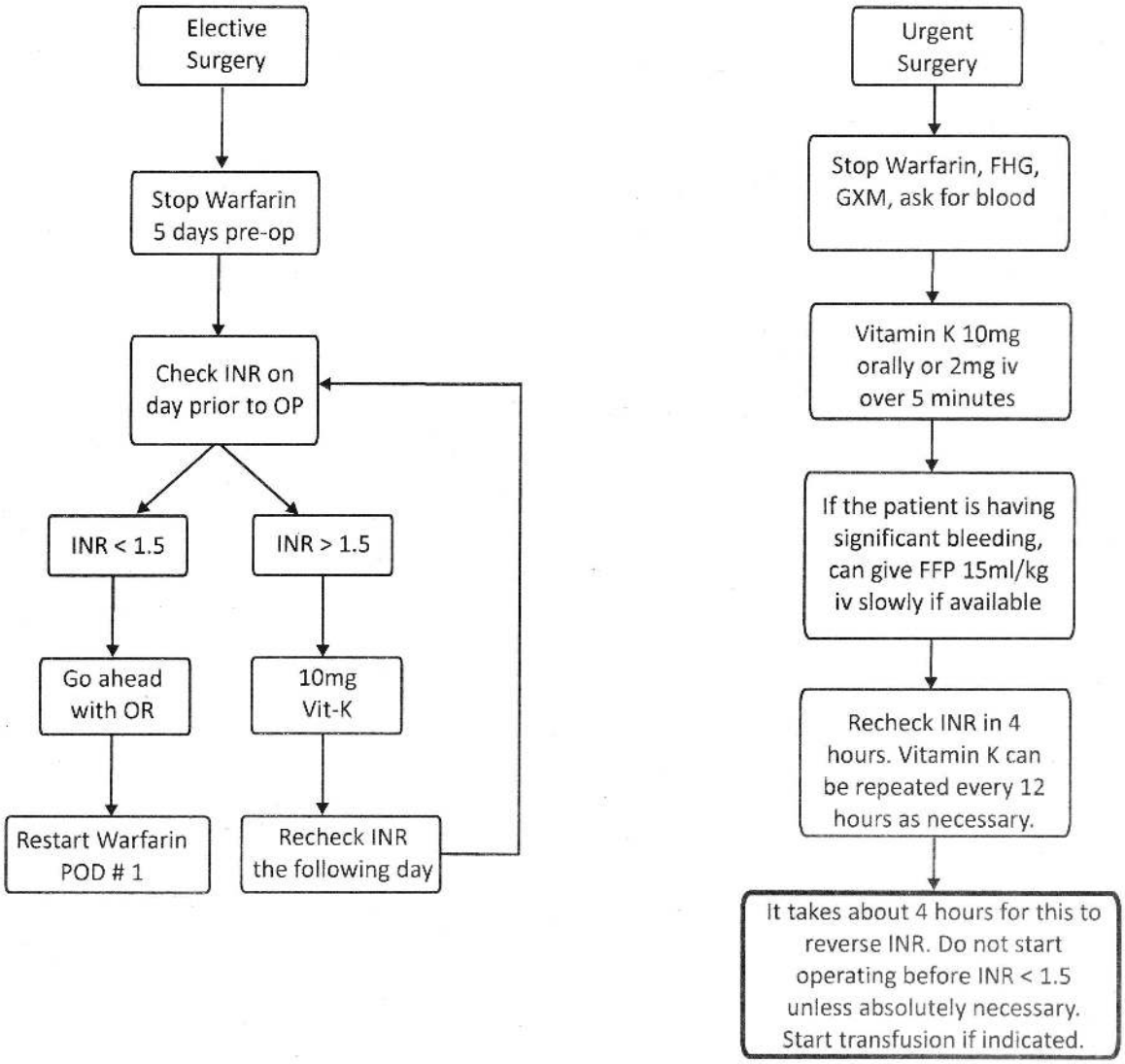


Figure 6 Women on Anticoagulation Requiring Gynecologic Surgery



References

Ginsberg JS, Greer I, Hirsh J. (2001). Use of antithrombotic agents during pregnancy. Chest. 122S-131S.

Kent N, Leduc L, Crane J, Farine D, Hodges S, Reid G, Van Aerde J. (2000) Prevention and Treatment of Venous Thromboembolism (VTE) in Obstetrics. SOGC guideline. http://www.sogc.org/guidelines/public/95E-CPG-September2000.pdf

Maria H, Wexler S. (2008). Guidelines for the management of warfarin reversal. http://www.ruh.nhs.uk/gps/pathology/documents/blood_transfusion_information/Protocol_for_the_management_of_warfarin_reversal.pdf

Marik PE, Plante LA. (2008). Venous Thromboembolic Disease and Pregnancy. NEJM. 359:2025-2033.

McLeod A, Ellis C. (2005). Prevention and treatment of venous thromboembolism in righ risk situations in pregnancy. Fetal and Maternal Medicine Review. 16:1 51–70.

Naqvi TZ, Foster E. (2002). Anticoagulation during pregnancy. Curr Womens Health Rep. 2(2):95-104.

Shannon MS, Edwards MB, Long F, Taylor KM, Bagger JP, De Swiet M. (2008). Anticoagulant management of pregnancy following heart valve replacement in the United Kingdom, 1986- 2002. J Heart Valve Dis. 17(5):526-32.

Vitale N, De Feo M, De Santo LS, Pollice A, Tedesco N, Cotrufo M. (1999). Dose-dependent fetal complications of warfarin in pregnant women with mechanical heart valves. J Am Coll Cardiol 33:1637-1641

Research paper

The approach to studying among medical students from different districts in Sri Lanka

Dakshitha Wickramasinghe†[1]
MBBS (Colombo)

Dharmabandhu N Samarasekera†[2]
MBBS (Colombo)
MS MD (East Anglia, UK)
FRCS (Eng) FRCS (Edin)
PGCertMEd(Dundee)

1 Research Assistant
2 Professor of Surgery
†Department of Surgery,
Faculty of Medicine,
University of Colombo

Author for correspondence and requests for reprints-
Professor D.N.Samarasekera
Email : samarasekera58@yahoo.co.uk
Telephone : 0094773185327
Fax : 0094112691581
Address : 28/1, Ishwari road, Colombo 06, Sri Lanka

Authors' contribution:
All authors were involved in planning, data collection, analysis of data and writing the manuscript

Index words:
Approaches to studying, Medical students, District of entry, Sri Lanka.

Introduction

The approach of students for a given academic task basically involves focussing on, understanding the material or reproducing. The landmark study in 1976 by Marton and Saljo (1) was based on this, where over 1500 university students were assessed. Entwistle (2) and Ramsden (3) in 1981 and 1992 respectively explored this further. Subsequent work demonstrated that different approaches will affect the outcome of study programs (4-6) and that there are significant differences between the East and the West (7). The notion that students can change their learning approach, however has conflicting evidence (8-10).

Sri Lankan medical undergraduates come from all 25 districts of Sri Lanka. There is considerable variation in the infra structure, culture, economy, linguistic and life style in different districts. Culture plays an important part in determining the learning style of an individual (11, 12). In addition, there is clear evidence to suggest that infrastructure affects student behaviour and learning outcomes (13). Therefore, it is reasonable to make an assumption that these students from different districts approach learning tasks differently.

The aim of this study was to describe the differences in approaches to studying and the study skills of students from different districts of Sri Lanka.

Methods

Setting and participants

The study population included the first year (pre-clinical) and the final year (clinical) medical students of the Faculty of Medicine, University of Colombo, Sri Lanka (FMC). The questionnaires were distributed at lectures after explaining the purpose of the research. All participants were assured confidentiality.

The ethics committee of the Faculty of Medicine, University of Colombo approved the study.

The questionnaire

The participants were given the Approaches and Study Skills Inventory for Students (ASSIST) questionnaire. It is a revised version of the Approaches to Study

Inventory (ASI) developed by Entwistle and his colleagues at the Lancaster University in the late 1970s and a product of the Enhancing Teaching-Learning Environments in Undergraduate Courses (ETL) team (14). The ETL team welcomes researches to use the tool free of charge for non-profit research.

ASSIST contains 52 statements in which the respondents answer using 5 point modified Likert scales (*1 -disagree* and *5 agree*). The statements are combined into 13 subscales of four items each, which are further grouped into the three main scales: DA, SA, and SAA. The first part deals with the respondent's perception of learning, while the second part deals with the actual approaches to studying and the third part assesses the preference of course type and teaching methods. A final question asks the respondent to self evaluate himself/ herself about previous assessments.

The English version of ASSIST has been validated by Byrne et al (15) and a Norwegian version by Diseth et al (16).

Statistical analysis

The data were entered into a SPSS datasheet (SPSS Inc, Chicago, IL) and cumulative scores calculated as instructed in the ASSIST questionnaire.

The scores were analyzed using the Kruskal-Wallis test and Dunn's multiple comparison test was used for post-hoc analysis.

Significance level for the testing was 5 %, unless otherwise specified.

Results

A total of 311 students were included in the analysis; 187 from the first year (M: F= 96: 91) and 124 from the final year (M: F= 61: 63). The return rate was 99.4 % and 68.8 % respectively. The mean age was 21.2 years (SD = 2.54, range = 19-27). There were 157 males and 154 females. Colombo district had the most number of students (n=176) followed by Gampaha (n=28) and Matara (n=21) (Table 1).

The scores obtained for DA and SA were not significantly different between the districts (p=0.116 and p=0.362 respectively). The SAA scores were significantly different between the districts (p=0.026). However, post-hoc analysis using the Dunn's multiple comparison test failed to identify a statistically significant difference between any 2 districts. Districts with less than 2 students were excluded from the post-hoc tests (i.e. Moneragala, Polonnaruwa, Trincomalee and Vavuniya)

There was no difference in the preference for either a teacher who supported understanding (p=0685) or a teacher who transmitted information (p=0.463).

Discussion

The roughly equal gender distribution is the norm seen at the FMC. Rather high response rate of first year students may be attributed to the free education system in Sri Lanka and students being grateful and cooperative. Lesser response rate from the final year students may be because they are more occupied (i.e. clinical work and preparation for the final examination) than the first year students and this is understandable.

The higher number of students entering the medical faculty from districts with higher population density and better infrastructure is also the norm. In addition to these, it may be the personal preference to enter a medical faculty that is closer to home also (i.e. students from the Central and Northern Provinces preferring Peradeniya and Jaffna Universities respectively).

The effect of the district

The scores of DA and SA were not affected by the district, and though the SAA scores were affected, there was no significant difference on post-hoc analysis. It is therefore our belief that, in spite of the different circumstances at entry to the medical schools, students pursuit learning much the same way.

The preference of a teacher type

There was no significant difference in the preference for a teacher who supported understanding or transmitted information. This is an indicator that regardless of the district of entry to the medical faculty, students have the same expectations from their teachers.

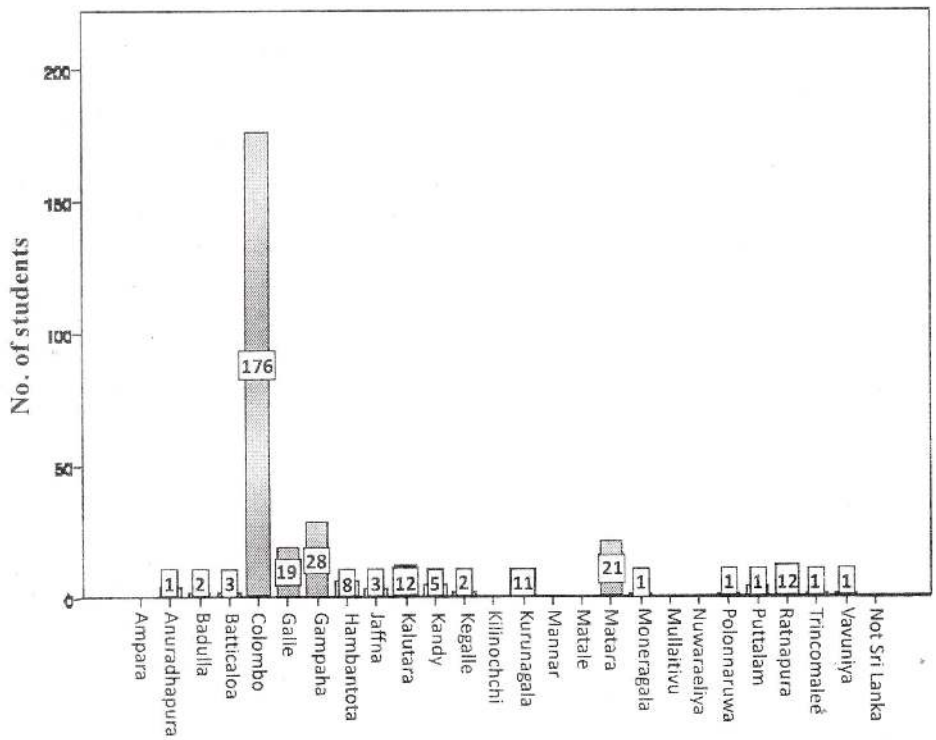
An obvious limitation of our study is the small number of students from some districts. However, it is important to keep in mind that the number of students from these districts being selected to do medicine is also very few, and even if selected, some prefer to enter a university close to their home towns. In addition, the vast majority of students who enter the FMC are selected on merit alone and therefore, it is justifiable to make an inference that they are quite capable of adapting to a competitive environment of learning with least amount of help. Findings of our study also indirectly support the claims of de Silva et al (17) who did not find the district of entry to be a predictor of academic success.

Conclusions

Among the undergraduates of the Faculty of Medicine, Colombo, the district of entry did not make any difference to the approaches to studying and the study skills or the preference for a particular teacher type.

Table 1

Number of students from each district



References

1. Marton FS, R. On qualitative differences in learning: I. Outcome and process. British Journal of Educational Psychology. 1976;46(1):4-11.
2. Entwistle N. Styles of Learning and Teaching; an integrated outline of educational psychology for students, teachers and lecturers John Wiley; 1981.
3. Ramsden P. Learning to Teach in Higher Education: Routledge London; 1992.
4. Karen M, Ian D, John B. Approaches to learning and studying in medical students: validation of a revised inventory and its relation to student characteristics and performance. Medical Education. 2004;38(5):535-43.
5. McManus IC, Richards P, Winder BC, Sproston KA. Clinical experience, performance in final examinations, and learning style in medical students: prospective study. BMJ. 1998 January 31, 1998;316(7128):345-50.
6. Reid WA, Duvall E, Evans P. Relationship between assessment results and approaches to learning and studying in Year Two medical students. Med Educ. 2007 Aug;41(8):754-62.
7. Kember D, NG S, TSE H, Wong ETT, Pomfret M. An examination of the interrelationships between workload, study time, learning approaches and academic outcomes. Studies in Higher Education. 1996;21(3):347 - 58.
8. Lindemann R, Duek JL, Wilkerson L. A comparison of changes in dental students' and medical students' approaches to learning during professional training. Eur J Dent Educ. 2001 Nov;5(4):162-7.
9. Zeegers P. Approaches to learning in science: a longitudinal study. Br J Educ Psychol. 2001 Mar;71(Pt 1):115-32.
10. Bain PRTJD. Consistency in learning strategies. Higher Education. 1982 1982-05-01;11(3):249-59.
11. Kolb SJDA. Are There Cultural Differences in Learning Style?
12. Joy S, Kolb DA. Are there cultural differences in learning style? International Journal of Intercultural Relations. 2009;33(1):69-85.
13. Fisher K. The Impact of School Infrastructure on Student Outcomes and Behaviour. Schooling Issues Digest [serial on the Internet]. Available from: http://www.dest.gov.au/sectors/school_education/publications_resources/schooling_issues_digest/schooling_issues_digest_building.htm.
14. team E. The project. [09-04-2010]; Available from: http://www.etl.tla.ed.ac.uk/project.html.
15. Byrne M, Flood B, Willis P. Validation of the approaches and study skills inventory for students (assist) using accounting students in the USA and Ireland: a research note. Accounting Education: An International Journal. 2004;13(4):449 - 59.
16. Diseth Ãg. Validation of a Norwegian Version of the Approaches and Study Skills Inventory for Students (ASSIST): application of structural equation modelling. Scandinavian Journal of Educational Research. 2001;45(4):381 - 94.
17. de Silva NR, Pathmeswaran A, de Silva HJ. Selection of students for admission to a medical school in Sri Lanka. Ceylon Med J. 2004 Sep;49(3):81-5.

Case record

An uncommon thyroid carcinoma: sclerosing mucoepidermoid carcinoma with eosinophilia of thyroid gland

Dr. S. Thuraisamysarma
Senior Registrar in Surgery,
Teaching Hospital, Jaffna.

Dr. R. Vaaheesan
Registrar in Surgery,
Teaching Hospital, Jaffna.

Dr. S. Raviraj
Consultant Surgeon,
Teaching Hospital, Jaffna.

Abstract:-

Sclerosing Mucoepidermoid Carcinoma with Eosinophilia (SMECE) is recently recognized Thyroid malignancy associated with Hashimoto's Thyroiditis. It was first described by Chan et al(1) in 1991. Up to now only 25 cases of SMECE have been reported in the literature. Most of these cases had a relatively prolonged survival. But in some patients aggressive behaviour and extra thyroidal extension or distant metastasis have been noted. Mucoepidermoid carcinoma is a rare primary thyroid tumour with indolent biologic potential. Two types of tumours have been described in this category; mucoepidermoid carcinoma (MEC) and Scierosing mucoepidermoid carcinoma with eosinophilia (SMECE). We present il 62 year old patient with SMECE of thyroid, who underwent total thyroidectomy in 2005

Keywords:-
Mucoepidermoid Carcinoma, Sclerosis, Eosinophilia, Thyroid

Introduction:-

Sclerosing Mucoepidermoid Carcinoma with Eosinophila (SMECE) is a recently recognized thyroid malignant neoplasm. It was first described by Chan et al (1) in May 1991 by Deppartment of Pathology Vale University School of Medicine, New Haren. They reported eight case of distinctive low grade carcinoma of Thyroid gland occurring in a back ground of Hashimoto'" Thyroiditis.

At present only 25 cases of this entity have been described in the literatures (1-9/15)

We report a case of' SMECE and briefly review with the literatures.

Case Report:-

A 62 years old female patient presented with a firm painless lump in the Thyroid region for two years and rapidly increasing in size for last three months. The physiological status on clinical evaluation was euthyroid and she had mild hoarseness of voice for last two months. Physical examination revealed multinodular goiter with firm masses on both lobes of ThyrOid measuring 8 cm X 6 cm in size with no cervical lymphadenopathy. Routine

investigations Include blood counts, biochemical tests which includes thyroid function test and tumour markers (serum calcitonin, Thyroglobulin) were within normal range. The indirect laryngoscope exarninCltion revealed sluggish movement of right vocal cord. Ultra Sound Scan of neck revealed multinodular goiter with Hypo echogenic area in the right lobe of Thyroid with increased vascularity and suggested FNAC. U/S guided FNAC done, the report revealed suspicious cells with background of Hashimoto's thyroiditis and suggested biopsy.

The patient underwent total thyroidectomy with preservation of parathyroid glands & recurrent laryngeal nerves. Post operative period was uneventful.

The biopsy revealed neoplastic areas consists of short cords and small solid islets which were formed by atypical cells in a densely hyalinized fibrous stroma. These atypical cells were medium to large in size, round or polygonal in shape and contained moderate amount of pale eosinophilic clear cytoplasm. The nuclei were round with centrally placed nucleolus. In some areas the cells showed obvious squamous differentiation with Keratin pearl formation. There was a minimal vascular invasion particularly of medium size vessels with luminal obstruction. Mitotic figures were observed in the tumour cells. Non neoplastic portion of thyroid tissue showed typical features of Hashimoto's thyroiditis and suggested for immune histochemistry study for cytokeratin. It was done and turmour cells were strongly positive for cytokeratin.

Pathological diagnosis was compatible with SMECE of thyroid.

The patient is following the surgical and oncological clinic without any complications.

Discussion:-

SMECE is diagnosed by histopathological appearance. Histologically it consists of small nests of strands of squamous cells with rare mucus cells. Extensive sclerosis, squamous and globular differentiation, and concomitant inflammatory infiltrate rich in oesinophils with the back ground of Hashimoto's thyroiditis suggestive of SMECE. The neoplastic cells are strongly positive immuno reactive for cytokeratin and not for thyroglobin of calcitonin . The cause for eosinophilic infiltration is not known. But the tumour cells produce eosinophillc chemotactic. factors which secrete these eosinophilic material (11).

In view of all 25 SMECE cases, (15) described in the literature, the patients' age group ranged from 32 - 74 years. This patient is 62 years old. Females are predominantly affected, femille male ratio is 23:1. Most of the patients with SMECE had a relatively indolent clinical course and the prognosis is fairly good - survival more than 10 yrs. Rare cases of Lung, bone and other distant metastasis have been reported (3,4,7,8)

This patient is also still following the clinic without any complications.

SMECE should be differentiated from other primary thyroid tumours that can show foci of squamous differentiation, extensive sclerosis, eosinophilic infiltration and neoplastic cells are strongly positive immuno reactive for cytokeratin. Vascular invasion with luminal obliteration of medium sized vessels is observed as a special feature of SMECE.

Conclusion:-

The histogenesis of SMECE of thyroid remains unclear and controversial. Based on its constant association with Hashimoto's thyroiditis, it has been suggested that the SMECE originates in the

benign squamous nets, that are often found in Hashimoto's thyrioidtis. (1,3,4)

Many authors have suggested that SMECE develops from ultimo bronchial body vestiges of solid cell nets (9,14)

SMECE originally described as a relatively indolent neoplasm as in this case. But there are few reported cases with aggressive behavior with distant metastasis (8) It occurs predominantly in older women with Hashimoto's thyroiditis.

References :-

1. *Chan KJC, Albores-Saavedra J, Battifora H, et al. Sclerosing mucoepidermoid thyroid carcinoma with eosinophilia. A distinctive low-grade malignancy arising from the metaplastic follicles of Hashimoto"s thyroiditis. Am J Surg Pathol 1991;15:438 48*
2. *Bondeson L, Bondeson AG. Cytologic features in fine-needle aspirates from a scierosing mucoepidermoid thyroid carcinoma with eosinophilia. Diagn Cytopilthol 1996;15 301 - 5*
3. *Sim SJ, Ro JY, Ordonez NG, et al. Sclerosing mucoepidermoid carcinoma with eosinophilia of the thyroid: report of two patients, one with distant metastasis, and review of the literature. Hum Pathol 1997;28:1091-6.*
4. *Geisinger KR, Steffee CH, McGee RS, et al. The cytomorphologic features of sclerosing mucoepidermoid carcinoma of the thyroid gland with eosinophilia. Am J Clin pathol 1998;109:294-30l.*
5. *Ro JY, Sim SJ, Ordonez NG, et al. Sclerosing mucoepidermoid carcinoma with eosinophilia of the thyroid (SMECE): clinicopathologic and immunohistochemical studies of 4 cases. Mod Pathol1998;11:59A.*
6. *Cavazza A, Toschi E, Valcavi R, et al. Sclerosing mucoepidermoid carcinoma with eosinophilia of the thyroid: description of a case. Pathologica 1999;91:31-5.*
7. *Chung j, Lee SK, Gong G, et al. Sclerosing mucoepidermoid carcinoma with cosinophilia of the thyroid glands: a case report with clinical manifestation of recurrent neck mass. Korean Med Sci 1999;14:338-4l.*
8. *Solomon AC, Baloch ZW, Salhany KE, et al. Thyroid sclerosing mucoepidermoid carcinoma with eosinophilia: mimic of Hodgkin disease in nodal metastases Arch Pelthol lab Med 2000;124:446-9.*
9. *Baloch ZW, Solomon AC, liVolsi VA. Primary mucoepidermoid carcinoma and sclerosing mucoepidermoid carcinoma with eosinophilia of the thyroid gland: a report of nllW cases. Mod Pathol 2000;13:802-7.*
10. *Wenig BM, Adair CF, Heffess CS. Primary mucoepidermoid carcinoma of the thyroid gland: a report of six cases and a review of the literature of a follicular epithelial tumor. Hum Pathol1995;26:1099-108.*
11. *Lowe D, Jorizzo J, Hutt MSR. Tumor-associated eosinophilia: a review. J (lin Pathol 1981;34:1343-8.*
12. *Cameselle-Teijeiro J, Febles-Perez (, Sobrinho-Simoes M. Papillary and mucoepidermoid carcinoma of the thyroid with anaplastic transformation: a case report with histologic and immunohistochemical findings that support a provocative histogenetic hypothesls Path Res Pract 1995;191:1214-2l.*
13. *liVolsi VA. Surgical pathology of the thyroid. Philadelphia: WB Saunders; 1990*
14. *Rosai J, Carcancui Ml, Delellis RA. Tumors of the thyroid gland. Atlas of tumor pathology. 3rd series, Fascicle 5. Washington, DC: Armed Forces Institute of Pathology. 1992.*
15. *Ozkan Kanat et al. Sclerosing mucoepidermoid carcinoma with eosinophilia of the thyroid gland: Description of a case and review of the literature. Turk J of Can 2004, 34:122-26.*

Case record

A surgical dilemma : Ruptured mature cystic teratoma in advanced pregnancy

Guruparan. K
Senior registrar,
Obstetrics & gynaecology department,
Teaching Hospital, Jaffna.

Sivakaran.Y,
Senior house officer,
Obstetrics & gynaecology department,
Teaching Hospital, Jaffna.

Sritharan A
Consultant obstetrician
& gynaecologist,
Obstetrics & gynaecology department,
Teaching Hospital, Jaffna.

Case report

An elderly, primary subfertile woman was transferred from a peripheral hospital after being treated for acute abdominal pain radiating to back for ten days. She was on 37th week and her obstetric parameters were satisfactory. During elective caesarean section, we found mucinous substance in the peritoneal cavity with extensive omental damage and serosal stippling of the intestines and uterus [pictures]. Right side ovary was not identified. Further, there was hair and gelatinous material deposited in pouch of Douglas. LSCS was done without any complications and life baby was delivered. The peritoneal cavity was washed thoroughly and drain was inserted. Postoperative period was uneventful. A clinical suspicion of ruptured teratoma during surgery was confirmed by the histology report later as mature cystic teratoma.

Discussion

In our case, the patient was seen by us at term and early scans did not reveal any adnexal mass. As she presented with acute abdominal pain mimicking acute pancreatis, she was treated in a peripheral surgical casualty initially. Because of a remote possibility of uterine rupture in her case, a clinical diagnosis of pancreatis was considered. During caesarean section, though initial macroscopic features mimicked pancreatis, presence of hair raised the possibility of a teratoma.

In the world literature, a few cases were reported similar to our case [1], where adnexal mass was detected in early gestation with ultrasound scan and preterm delivery was performed. Further, there are cases reported on ruptured ovarian malignant cysts during pregnancy [2]. To conclude, it is essential to perform a detailed ultrasound scan during pregnancy and the presence of adnexal mass need to be evaluated more.

References

1. *Comerci JT Jr, Licciardi F, Bergh PA, Gregori C, Breen JL:* ***Mature cystic teratoma: a clinicopathologic evaluation of 517 cases and review of the literature.*** *Obstet Gynecol 1994 ,* ***84:****22-28.*
2. *Peterson WF, Prevost EC, Edmunds FT, Hundley JM Jr, Morris FK:* ***Benign cystic teratomas of the ovary; a clinico-statistical study of 1,007 cases with a review of the literature.*** *Am J Obstet Gynecol 1955 ,* ***70:****368-382.*

CME - GORD

Gastrooesophageal reflux disease
Overview and medical management

Retrograde movements of stomach contents, which could be acid or bile, in to the oesophagus is called Gastrooesophageal reflux (GOR) which is a physiological phenomenon. The Gastro oesophageal reflux disease (GORD) is a condition which develops when the reflux of stomach contents cause troublesome symptoms and/or complications. It is usually a chronic condition with frequent relapses. GORD is present in all age groups, typically prevalence increases in individuals older than 40years.There is no sex predilection appears to exist for the developing GORD. No race is more predisposing to than another to developing GORD but white men are at higher risk for the development of Barrett's oesophagus and oesophageal adenocarcinoma. GORD is common and its prevalence varies in different part of the world. Firs degree relatives of patients with GORD are more likely to suffer with GORD symptoms. Twin studies have revealed substantial genetic contribution to the aetiology of GORD.

Typical, atypical and alarm symptoms

Heart burn or burning sensation of the retrosternal area and regurgitation are the most typical symptoms of GORD. Epigastric pain can be a symptom of GORD. However patients with GORD can have variety of symptoms both typical and atypical. Atypical symptoms include chronic cough, nocturnal cough, hoarseness, pain mimicking angina, burning sensation in the pharynx and ear pain, asthma, pneumonia and aspiration. The diagnosis of GORD in patients with atypical symptoms can be difficult. Patients with atypical chest pain need exclusion of cardiac causes first prior to labelling the pain as non cardiac secondarily to GORD. Some patients with GORD can have more sinister or alarm symptoms such as dysphagia, persistent vomiting, unintentional weight loss, melaena and haemetemesis. These patients need early investigations even with trivial alarm symptoms.

Montreal classification

Global evidence based consensus group has divided the manifestation of GORD in oesophageal and extra-oesophageal syndromes with extra-oesophageal syndromes divided in to established and proposed associations. (Table 1). The rationale for this classification was that clinician may need to define and classify patient based on differing amount of information. According to Montreal definition reflux symptoms that are not troublesome should not be diagnosed as GORD. In population based studies, mild symptoms occurring 2 or more days a week, or moderate /severe symptoms occurring more than 1 day a week, are often considered troublesome by patients. As shown in table, this classification is very extensive and it covers typical symptoms, complications and even proposed associations. According to Montreal classification typical reflux syndromes can be diagnosed on the basis of the characteristic symptoms without diagnostic testing.

Dr. M.N.M. Navaratne, MD MRCP
Consultant Gastroenterologist
NHSL Colombo.

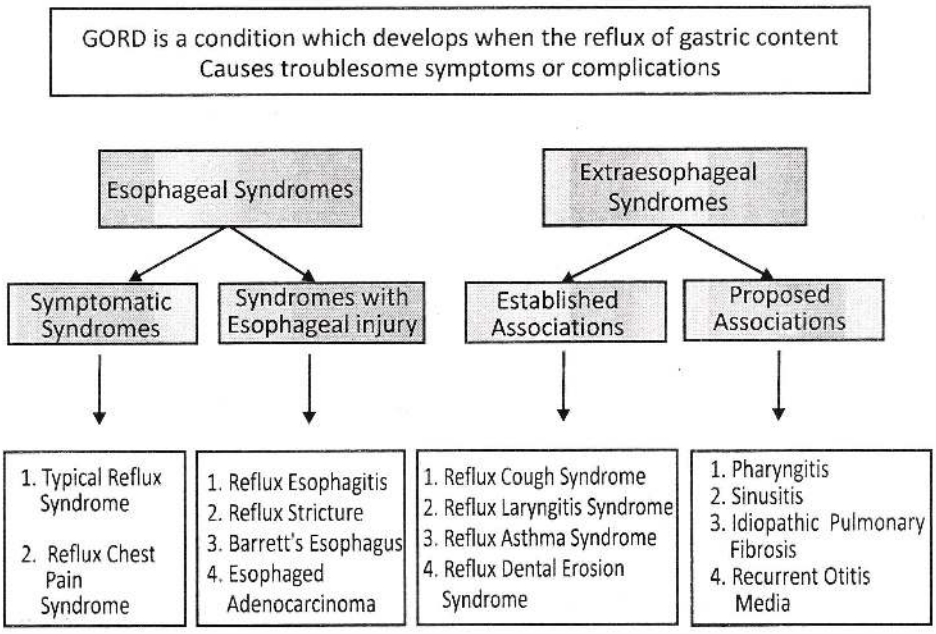


Table 1 Montreal classification

Pathophysiology

There are physiological and anatomical factors that prevent GER. These include

- Normal length and pressure of lower oesophageal sphincter(LES)
- Normal number of episodes of transient relaxation of LES (tLESR) - relaxation in the absence of swallowing.
- Location of the Gastroesophageal junction (GOJ) must be in the abdomen, so that the diaphragmatic crura can assist the action of LES. The presence of Hiatus hernia disrupts this action and promotes reflux.
- Normal oesophageal clearance. Both mechanical (peristalsis) and chemical (saliva) clearance help to achieve this.

GORD is caused by the abnormalities of one ormore of the protective mechanisms.

- Functional and mechanical abnormalities of LES are the most common cause of GORD. E.g.: more frequent tLESR

Hiatus hernia and hypotensive LES

- Certain foods, medications and hormones can decrease pressure of LES.

Foods: Alcohol, nicotine, caffeine containing foods, fatty foods

Medications: Nitrates, Beta blockers, Anticholinergics, Calcium channel blockers

Hormones: Progesterone

- Obesity and pregnancy are contributing factors probably by increasing intra abdominal pressure.

Diagnosis

The typical GORD can be diagnosed on the basis of the characteristic symptoms without diagnostic testing. Therefore, in most instances good history alone is enough to make the diagnosis.

Endoscopy

There is no consensus on indications and contraindications for endoscopy in patients with GORD. Conventional endoscopy identifies the presence and severity of oesophagitis and other complications of GORD. However the following

indications may be helpful in routine clinical practice.

Table 2

Indications of endoscopy in GORD
Alarm Symptoms
Atypical symptoms
Patients with severe symptoms
Emphirical treatment failure
Recurrence of symptoms at the end of therapy
? > 45 year of age

Oesophageal PH testing and manometry

This particular test evaluates the functioning of the oesophagus. This is a safe, minimally invasive test that can be performed in out-patient setting.

Indications

Persistence of symptoms while taking adequate and correct treatment Recurrence of symptoms after discontinuation of therapy Investigate atypical symptoms Confirmation of the diagnosis and to exclude oesophageal dysmotility prior to Antireflux surgery

Barium swallow

This is not a first line test these days, but may be helpful for patients with GERD and dysphagia.

Complication of GORD

Oesophageal complications of GORD are listed in table 3.In clinical practice endoscopic oesophagitis is seen in less than 50% patients with typical GORD symptoms. Reflux oesophagitis is the most common manifestation of oesophageal injury. Reflux oesophagitis is diagnosed endoscopically when visible breaks are seen in the oesophageal mucosa at or above the GOJ. Various classification systems have been published to grade the severity of endoscopic oesophagitis. Out of these, Los Angelis classification has gained wide popularity.

Table 3

Complications of GORD
Oesophagitis
Haemorrhage
Oesophageal stricture
Barrett's oesophagus
Oesophageal adenocarcinoma

Endoscopically suspected oesophageal metaplasia (ESEM) describes endoscopic findings consistent with Barrett's oesophagus that awaits histological evaluation. Therefore, multiple, closely spaced biopsies are necessary to characterize ESEM. The histological outcome of ESEM could be no metaplasia (No Barrett's), gastric metaplasia (Barrett's, GM) or specialized intestinal metaplasia (Barrettes', SIM).

Adenocarcinoma of the oesophagus is a complication of GERD. Barrett's oesophagus with intestinal type metaplasia is the most important identified risk factor for adenocarcinoma.

Disease Impact

Patients presenting with GORD fall in to 3 categories regarding disease impact.

1. **Recurrent distressing GORD** - Symptoms keep coming back and patients are anxious about recurrent nature of the disease.
2. **Long term disrupting GORD** have suffered from GORD for long time and has symptoms that are disrupting their daily life. They have had complications or have a higher risk of future complications.
3. **Inconveniencing GORD** Experience GORD that are not continuous and mostly related to lifestyle. They generally have mild symptoms that are under control, low level of anxiety & distress and have low risk of future complications.

Management

Management of GORD is a stepwise approach. The goals of management are given in table 4.

Table 4

Goals of management
Symptom relief
Healing of lesions
Prevention of complications
To maintain remission

The treatment is based on lifestyle modification and control of gastric acid secretion. Each and every patient should be advised about the facts that may worsen the GORD symptoms. Lifestyle modifications alone are inadequate for most of the patients.

Lifestyle modifications

Simple measures such as weight reduction if overweight, avoiding large meals & tight cloths and postural measures like elevating the head end of the bed are helpful to control GORD symptoms although not easy to adopt. The factors that reduce LES pressure should be reduced or avoided. Eg: caffeine containing foods, Fatty foods, Alcohol, Smoking Small frequent meals may be helpful to control symptoms in some patients.

Pharmacotherapy

Antacids were the standard treatment in 1970s and are still effective in controlling mild symptoms.
Eg: Magnesium Trisillicate , Calcium carbonate
Histamine 2 receptor agonists (H2RA) are effective in patients with mild to moderate symptoms and special circumstances where the PPI cannot be used.
Eg: Ranitidine , Famotidine
Proton pump inhibitors (PPI) are the most powerful medications available for treatment of this condition. They have few adverse effects and are well tolerated for long-term use. Table 5 shows the standard dose of currently available PPIs.

Table 5

Once daily PPI	Standard dose - mg
Omeprazole	20
Esomiprazole	40
Lansoprazole	30
Pantoprazole	40
Rabeprazole	20

PPI inhibit gastric acid secretion in terms of volume and PH. Therefore treatment with PPI leads to rapid symptom relief, healing of oesophagitis and prevention of complications. Initial therapy of moderate to severe GORD is usually done with standard dose of PPI for 4 to 8 weeks. Double dose of PPI is indicated if oesophagitis is present. Majority of ENRD patients and almost all patients with oesophagitis will relapse within six months of discontinuation of initial PPI therapy. Therefore maintenance treatment should be given at the lowest dose and frequency that is sufficient to achieve optimal control of symptoms. The available options are either low dose continues PPI, Physician driven intermittent PPI therapy or patients driven on-demand PPI therapy.

Prokinetic agents may improve the motility of the oesophagus and stomach. These agents are somewhat effective but only in patients with mild symptoms of GORD and some atypical symptoms. Long term use of Prokinetic agents may have serious complications and should be discouraged.
Eg: Metochlopramide , Domperidone

Endotherapy

Five Antireflux devices have received FDA approval since 2000. Two have been subsequently withdrawn from the market due to complications. These devices are mentioned below
1.Stretta procedure-Radiofrequency thermal energy to GOJ
2. Endoclinch procedure sewing /plication
3.Enteryx Injection of biopolymer to GOJ **withdrawn**

4. Plicator - placation technique
5.Gatekeeper Implantable biopolymer **withdrawn**

No procedure is safe enough to use in routine clinical practice. For the time being, endoscopic Antireflux procedures should be done in reference centres within the framework of a study.

Special groups

Endoscopy negative reflux disease (ENRD)

ENRD is defined by the presence of troublesome reflux-associated symptoms and absence of mucosal breaks at endoscopy. The absence of visible erosions /breaks is reported in over 50% of patients presenting with reflux symptoms in primary care. However, in these patients oesophageal mucosa is abnormal histologically. Patients with ENRD often respond to PPI satisfactorily.

Helicobacter Pylori & GORD

Helicobacter pylori infection (HPI) is not a risk factor for GORD. It is not protective against risks and developing GORD. Further, eradication of HPI does not make control of reflux symptoms, PPI more effective or worse the symptoms. Consensus is "Test & treat", therefore eradication therapy is recommended when indicated.

Children and pregnancy

GORD is common in infancy, children and pregnant mothers. The same medications used in adults may be tried in children with GORD, but need specialist opinion. Omeprazole and Lansoprazole has been studied, tolerated very well in children.PPI are better avoided in pregnancy due to possible teratogenic effects. Ranitidine indicated to pregnant mothers with GORD.

Night time GORD

GORD is frequently associated with sleep disturbances these symptoms reported by patients with GORD are substantially improved by PPI therapy and Anti-reflux surgery.

Exercise induced GORD

Physical exercise may induce troublesome symptoms of GORD in patients who have no/minimal symptoms at other times. This is well recognized condition and there appears to be no correlation between Gastroesophageal reflux and exercise induced bronchospasm or asthma.

References

1. *Nimish Vakil et al. The Montreal definition and classification of Gastroesophageal reflux disease: A global evidence based consensus. Am J Gastroenterol 2006;101:1900-1920.*
2. *Dent J.et al. Epidemiology of Gastroesophageal reflux disease: A systemic review. Gut 2005;54:710-7.*
3. *Fock K, Talley N et al. Report of the Asia-pacific consensus on the management of Gastroesophageal reflux disease. J Gastroenterol Hepatol 2004;19:357-67.*

CME - GORD

Gastrooesophageal reflux disease
Recent advances in the surgical management

Not only the distressing symptoms, but the evolvement of reflux oesophagitis through intestinal metaplasia, dysplasia to oesophageal carcinoma, also signifies GORD. Normal protective mechanism for acid reflux is provided by the lower oesophageal sphincter and the failure of that promotes the reflux. Surgical measures in treating GORD aims creating a resilient barrier in the lower oesophagus ahead of gastro-oesophageal junction.

The major surgical repairs for GORD started with open gastric fundoplication in 1950s. Nissen described total fundoplication, which provides a cuff of gastric fundus tightly encicles the lower oesophagus. The Besley operation is a thoracic procedure in which oesophagus is sutured to the diaphragm and to the fundus of the stomach and it produce a 240° anterior fundoplication. The Hil procedure is an operation in which cardia is tightened and fixed to the pre aortic fascia.

These open surgical procedures are largely replaced by laparoscopic fundoplication. Endoscopic therapies are the fascinating latest advances in the management of GORD though they need long term follow up to prove the efficacy of these procedures.

Dr.R.Vaaheesan,
Registrar in general surgery,
Teaching Hospital Jaffna.

Dr.S.Rajendra, MS,MRCS,
Consultant Surgeon, Teaching Hospital Jaffna.

What is the current available evidence to show the superiority of surgical management over medical management?

- Surgical treatment helps to prevent the development of oesophageal carcinoma in patients, who have Barrets oesophagus(BO). It is shown that upregulation of Cox-2 gene expression in patients with GORD and BO. Antireflux surgery reduces the levels of expression of the gene and evidences suggest it also can alter the progression of BO.
- Antireflux surgery stops the progression of intestinal metaplasia to high grade and disappearance of intestinal metaplasia in significant number of patients. There is complete regression of BO in and decreased degree of metaplasia or dysplasia . Interestingly none of the patients with BO progress to high grade dysplasia or oesophageal carcinoma. Recurrence of symptoms and complications of GORD appears to be reduced with surgical treatment.

GORD patients with morbid obesity are benefited from gastric by pass surgery as the recurrence is high with laparoscopic antireflux surgery. In this surgery small gastric pouch is formed out of the cardia and anastomosed with a long Roux-limb. It is useful in the case of failed medical management.

Less invasive endoluminal therapies are developed in the management of GORD which consist sewing, radiofrequency ablation and

injecting or implanting foreign material into the oesophageal wall.

Endoluminal fundoplication is done by endoluminal suturing devices, which apply sutures into gastric mucosa just below cardia to accentuate angle of His. Some studies revealed that the durability of the placation is low and there is no significant reduction of symptoms. In contrast another 2 yrs study showed reduced symptoms and continuation of medical treatment.

Stretta procedure is an endoscopic procedure uses radiofrequency energy to cause scarring at gastro-oesophageal junction and increases lower oesophageal pressure. The procedure appears to be safe and requires short learning curve. This technique is also provide improved quality of life and reduced the need for continuing medical treatment.

Endoscopic injection of co-polymers into the gastric mucosa induces inflammatory reaction and creates scar around the co-polymers. This method creates a narrowing in the lower oesophagus and impedes the gastric acid reflux. Disadvantage of this method is co-polymer injection has potential life threatening complications.

Animal studies made for the augmentation of gastro-oesophageal junction using injection of polymethylmethacrylate microspheres. The microspheres produce minimal inflammation and persistent bulking effect.

At present the endoluminal therapy may be an alternative for patients, who have mild to moderate GORD and dependent on medication and other surgical methods unapplicable. As the endoluminal therapies are safe and needs short learning curve they keep their place as alternative to invasive or minimally invasive fundoplications. It need long term studies to establish the efficacy as to become mainstay of treatment in GORD.

References

1. *Jan P.Kamler,MD.Gottfried Lempele, MD, PhD, Stefan Lemperle, MD, Glen A.Lehman, MD. Endoscopic lower esophageal sphincter bulking for the treatment of GERD: safety evaluation of injectable polymethacrylate microspheres in miniature swine. Gastro Ent : 2010:72(2):337-42*
2. *McLoughlin P,Jamieson G,Maddern G. Endoscopic treatments for gastro-oesophageal reflux disease(GORD): an accelerated systematic review. Stepney,SA:Australian Safety and Efficacy Register of New interventional Procedures-Surgical(ASERNIP-S) 2006:79*
3. *Vivien V Ng, Michael I Booth, Jane J Startford, Linda Jones, and Thomas CB Dehn. Laparoscopic Anti-Reflux Surgery is Effective in Obese Patients with Gastro-Oesophageal Reflux disease.Ann R Coll Surg Eng. 2007 ; 89(7): 696-702.*
4. *Troy A Markel, Samer G Mattar.The Surgical Management of Gastro-oesophageal Reflux Disease-Early Intervention in the Treatment of Barett's Oesophagus.Europian Gastroenterology &Hepatology Review[Internet] 2009[Published:January 2009];4(1) Available from http//www.touchgastroenterology.com/articles.*

CME - GORD

Gastrooesophageal reflux disease
Otolaryngological manifestations & management

Gastro oesophageal reflux disease is a condition caused by abnormal regurgitation of gastric contents into the oesophagus, pharynx and larynx. This reflux causes various extra oesophageal symptoms and signs. This GORD related symptoms usually represent 15-20% of ENT practice. The patients with laryngeal complications normally lack characteristic features of GORD including heartburn.

The pathologic response due to reflux include:

- direct acid and pepsin injury to larynx and surrounding tissues,
- Acid in the distal oesophagus stimulates vagal mediated reflexes, which result in bronchoconstriction, coughing, chronic throat clearing and eventually causes mucosal lesions. *'Reflux causing reflex cough'*

Presentation to ENT practice,

- globus sensation (a primary symptom) and chronic throat clearing. The delicate ciliated respiratory epithelia are sensitive to gastric acid and pepsin, causing dysfunction of cilia. This causes mucous stasis and accumulation.
- Chronic cough, non productive irritative cough neurally mediated reflex due to reflux.
- Hoarseness, recurrent or persistent hoarse especially in the mornings.
- Choking attacks and vocal cord dysfunction, sudden exposure of gastric content to vocal cords causes spasm of vocal cords leading to choking attacks.
- Sore throat and dysphagia.
- Recurrent sinusitis.
- Rarely difficulty in breathing resulting from laryngeal stenosis due to chronic laryngitis.

Physical Examination:

Diffuse laryngeal oedema, erythematous arytenoids, and redundant mucosa over posterior commissure of the larynx, hypertrophied false cords, granuloma formation and contact ulcers of vocal cords, subglottic stenosis and fixed bilateral vocal cords.

Treatment:

Dietary modification: Small portions of meal, meals 2-3 hrs before lying down, avoid foods which affect lower oesophageal sphincter (fatty food, chocolate, tomato and coffee)

Life style modification: lose weight, elevate head end of bed by 4-6", cessation of smoking and avoidance of tight clothing.

Medical Treatment:

Proton pump inhibitors, is the mainstay of treatment high doses and longer duration are necessary. For extra oesophageal complication recommended at least 3 months, possibly 6 months.

Prokinetic agents, useful in controlling reflux needs to be used with combination of PPI.

H2 receptor blockers and antacids, these control the symptoms but healing does not occur.

Surgical Treatment:

Antireflux surgery is recommended for failure to respond to medical treatment, those who need continuous or increasing doses of antireflux treatment.

Dr. S. Vettivel MS FRCS
Consultant ENT Surgeon
GH, Kalutara.

Abstracts

Oesophageal anastomotic tecnique and out come

S.Raviraj, R.Vaaheesan & N.Jayanthan.

Prospective evaluation in 221 patients, between 1985 and 2009

Hypothesis-A single layer interrupted hand sewen method for oesophageal anastomosis after oesophagectomy has been in routine in most of the centers. The anastomotic tecnique practice in our center is, a single layer interrupted suture with additional support by a muscle cuff layer of oesophagus anastomosed with stomach serosa.

This study aims to document the results of our methods and compare with the standard method of oesophageal anastomosis.

Design-Retrospective study.
Setting-Teaching hospital-Jaffna.

Patients and methods-We studied 221 patients who had an oesophageal anastomosis after oesophagectomy with a single layer interrupted hand sewen method with additional support of a muscle cuff of oesophagus anastomosed to stomach serosa in a different plane.

Main outcome measures-Anastomotic leaks, anastomotic strictures and mortality rates.

Results:
In our study the anastomotic leak was 3.62%(08) versus 3.2%-14% in single layer interrupted hand sewen method in various literatures, and anastomotic strictures in 2.71% versus 11.1%-22% respetively. Mortality during postoperative period was 9.24% in our study but 0.9%-12% in other studies.

Conclusion-Our tecnique of anastomosis is safe and effective. The mortality rate is little high may be due to the random selection of cases.

Abstracts

Retrospective study of new smear positive pulmonary tuberculosis case finding in Jaffna District in Year 2007

Jamunanantha C.S

Tuberculosis is a challenging illness in every part of the world for a long time. WHO has decided to eliminate TB in the world by the year 2050 and implementing stop TB Strategy. The Operative researches, are parts of the stop TB Strategy A retrospective analysis of NSP Pulmonary TB case finding was analyzed for the year 2007 in Jaffna District. The results were compared with National NSP Case finding with age and Sex specified rates. The NSP Case detection rate in young males and, females less than the National level and it was attributable to the war situation in 2007, and the youngsters were not frequently visit the Chest Clinic. The age specific case findings in males in Jaffna between the age group 55-64 is 142/100,000 population and above 65 years is 94/100,000 population. The age Specific case finding in females between the age group 55-64 is 62/100,000 population and above 65 is 28/100,000 population the national Statistics for these also follow the same pattern Therefore we need more awareness programmes and Screening activities in elderly population above 65 years to find out more cases to achieve WHO stop TB Strategy.

Abstracts

Demographic analysis of thyroid malignancies in a single surgical unit, Teaching Hospital Jaffna.

Gobishangar.S, Jayanthan. N & Raviraj.S

Introduction:

Thyroid malignancy is a malignancy with very good prognosis when treated appropriately. And it is the most common endocrine malignancy, accounting 1-2% of all new malignant tumours. In general, there are five recognized types of thyroid carcinoma. Papillary Carcinoma, Follicular Carcinoma, Hurthle Cell Carcinoma, Medullary Carcinoma, Anaplastic or Undifferentiated Carcinoma.

Objective:

To identify the pattern of thyroid malignancy, distribution among males and females and compare with national and international data.

Methodology:

A retrospective study was conducted using 52 patients who underwent treatment for thyroid malignancy at single surgical unit; Teaching Hospital Jaffna over 8 years period from 2003 to 2010 May. BHT, clinic records, theatre records, histopathological reports and unit computer database records were used to gather data.

Results:

Results revealed that annually we got between 5 - 8 patients, with higher incidence in females. Male to female ratio was 1 : 4.2. International studies shows male to female ratio is 1 : 3. In this study 52 % have papillary, 38% have Follicular, 8% have Medullary and 2% have Anaplastic carcinoma. International data shows papillay 80% Follicular 5-10%, Medullary 5-10%, and Anaplastic carcinoma 1-2%. Peak age groups were 20 - 29 yrs and 50 -59 yrs (37.8%) in our study. International data shows peak incidence between 5^{th} to 8^{th} decade.

Conclusion:

Though Thyroid malignancy is less in our part, it mostly affect female as in the other part of the word. But in our study the incidence of Papillary carcinoma was reduced and follicular carcinoma were increased compare to international data. But we have to do a study in whole community before come to the conclusion.

Abstracts

Burden of adult asthma in Vavuniya District

V.Murali, S.Sivayogan & KCS Dalpatadu

Introduction

Asthma is a common problem in Sri Lanka causing high level of disability and psychological distress

Objectives

To measure the physical, psychological burden of adult asthma in Vavuniya District

Methods

This study was carried out in two phases. In the first phase questionnaire was validated. In the second phase a community based cross sectional survey was conducted with interviewer administered questionnaire on 1008 participants to measure the period prevalence of asthma. After exclusion of 12 participants with other diseases, those who were diagnosed of asthma alone were administered with internationally validated instruments to measure quality of life and psychological burden in asthma.

Results

Construct validity was established between Peak Expiratory Flow Rate Measurements and the Quality of Life (QOL) component of the questionnaire ($P<0.05$).

The period prevalence of asthma was 7.4% (n=75). Among them five patients were not previously diagnosed of asthma. Fifty one patients had hay fever symptoms. Correlations between the four domains of the QOL questionnaire and between the Asthma Bother Profile and QOl component confirm the earlier findings of validity of the QOL component and asthma bother profile. In addition reliability of the QOL component was established with reliability test of Cronbach's alpha. Among asthma patients, employed persons have significantly better Quality of Life score when compared to unemployed and house wives ($P<0.05$). No significant differences were observed between age groups, or sex with respect to QOL scores or psychological distress scores ($p>0.05$).

Conclusions

Asthma causes significant burden among adults by affecting their quality of life. The quality of life among asthmatics is not affected by the age and sex though employed persons have a better quality of life when compared to the unemployed and house wives.

Abstracts

A study of stroke patients presented to Teaching Hospital Jaffna

S. Rajanayagam, M. Pirinthini & S. Jeyalakshmy

Introduction:

Stroke is a common worldwide neurological condition .. Advances have been made recently in acute care, rehabilitation and prevention of stroke, which has resulted in significant improvement in the outcome of this devastating disease

Objectives:

To study the demographic and clinical data of stroke patients presenting to Jaffna teaching hospital, to identify high risk categories where primary prevention can be improved, to plan acute stroke management, and to determine the outcome of stroke patients.

Methodology: Study was conducted on all stroke patients presenting to medical units in the Jaffna Teaching hospital between the period of 1st October 2009 to 31 st of March 2010. Diagnosis of stroke was made on clinical grounds (defined as the onset of rapidly developing clinical signs of focal or global disturbances of cerebral function). Data collected from patients' clinical notes. Approval to collect information was obtained from the Director.

Results:

165 patients presented over a period of 6 months. Majority of the patients (84.24%) were between 46 to 80 yrs and 4.24% of patients were below 45 yrs or age. More than half the patients were males (52.12%), Only 25.45% of patients presented to the Hospital within 3 hrs of onset of stroke symptoms. 72.72% had ischaemic stroke, 32.12% of patients had no previously detected co-morbidities. 43.63% had diagnosed Hypertension, 25.45% had Diabetes, 24.84% had a history of smoking, 3.04% had atrial fibrillation. 9.69% of patients died in-ward, of the rest 19.39% were bed bound, and 48.48% were dependant for their activities of daily livin~ at the time of discharge.

Conclusion: This audit provides evidence to the requirement of a stroke unit in teaching hospital Jaffna, to implement acute stroke management including thrombolysis and to institute a rehabilitation programme. It highlights the importance of identifying risk factors and optimizing the treatment with the aim to reduce the incidence of stroke. Lastly we see the need for public education into this very serious and disabling disease to encourage early admission.

Abstracts

Postdural puncture headache in parturients who underwent caesarian section under subarachinoid block

S. Premakrishna, N. Bavani

Background

There has been a marked increase in popularity of regional anaesthesia for caesarian section in many countries in past 15 to 20 years. We conducted a study, the incidence and the risk factors of postdural puncture headache in uncomplicated parturient who underwent caesarian section under sub arachinoid block in Obstetric unit, Teaching Hospital Jaffna.

Method

This is a descriptive study conducted on the 110 uncomplicated parturient who underwent caesarian section under subarachnoid block. Interviewer administered questionnaire was used to collect data during 15th May 2010 to 15th June 2010.

Results

The requested information was obtained from110 parturient. The entire subarachnoid block was done using 25G Pencan pencil point needle. The overall incidence of PO PH is 2.7%. All of them had mild headache lasting for one day duration and treated with mild analgesics and oral fluids. Several factors were identified to be associated with POPH in parturient. They were age< 30 years (2.7%), multi gravidae (1.8%) and experience of anaesthetist <2 years 1.8%. The headache and different age group, headache and different group of anaesthetist experience were analyzed, but the probability value is< 0.005 so they were not significantly associated with each other.

Conclusion

The recent studies showing POPH is mainly depend on size and type of spinal needle but in our study all these cases were done by same size and type of needle. In our study we analyzed above risk factors also but they were not significantly associated with Headache.

Abstracts

A study of clinical and postmortem findings in patients who have ingested a new laundry detergent

W.K.B.K.M. Fernando P.L. Ariyananda, I. Gawarammana, A. Dawson

Background:

A new laundry detergent consisting two sachets of 1.2g of potassium permanganate ($KMNO_4$) and 12.5g of oxalic acid (OA) has become a popular agent for self poisoning in the south of Sri Lanka.

Methods:

Prospective clinical data, major outcomes and post-mortem findings were recorded in patients admitted to a referral hospital (teaching hospital Karapitiya) from January 2007 to September 2008.

Results:

There were 37 deaths reported from the study hospitals. 26 patients were admitted to district hospital Hiniduma and 12 died (case fatality ratio of 46.2% (95% CI 27.9-65.2). There were 19 deaths in the other 3 referring hospitals (base hospital Morawaka, district hospital Deniyaya, general hospital Matara). At the referral hospital, there were 103 (61 females, median age 22.5years) patients and six deaths. There were twice as many patients in 2008 compared to 2007. All the fatalities ingested OA while a few ingested both OA and $KMNO_4$. All acute deaths were preceded by resistant hypotension, one had ventricular fibrillation.

Of the 20 patients who ingested both $KMNO_4$ and OA, the median serum creatinine estimated on day 2 was 1.7mg/dL (IQR 0.91-4.4; normal range 0.5-1.3mg/dL) and 28% had evidence of renal failure. Ingestion of more than one sachet is associated with a significantly higher risk of death (risk ratio 12.43, (95% CI 3-51, $p<0.05$). Post-mortem findings revealed mucosal ulcerations in majority while 2 had congested lungs.

Conclusion:

This case series highlights an emerging fatal self poisoning in Sri Lanka. As number of cases have doubled in two years more deaths are likely in the coming years if manufacture and sale of this product is not regulated.

Abstracts

Study of non communicable disease pattern in Mannar District of Sri Lanka

K.Aravindan

Introduction:

Mannar district is located in the northern lowland areas of the Island. The population of Mannar district has suffered a lot due to the recently concluded conflict. No reliable data is available on non communicable diseases prevalence in the district. Non communicable diseases particularly cardiovascular diseases and diabetes mellitus are the major cases of morbidity and mortality in the developed world and are emerging as an important component of the burden of diseases in developing world. The migration and urbanization of populations, as well as rapid economic and social change in some countries have been implicated as causative factors.

Objectives:

Find out the important non communicable disease patterns to plan future epidemiological research in Mannar.

Methods:

The study was carried out at the district general hospital Mannar medical clinic. All patients who attend the medical clinics over a period of one month were included in the study. Relevant information and consultant physician made diagnosis were obtained from the patient's medical records. Disease pattern was analyzed by simple descriptive statistical method.

Results:

A total of 1640 patients were studied. 494 males and 1146 females with non communicable diseases were giving a male to female ratio of 1: 2.32. Most patients were in the 51-60 age group (33%); followed by the 61-70(24.6%);41-50(19.4%), 71-80(9.9%) and 31-40(7.8%) years age groups. Hypertension and Diabetes were most commonly seen accounting for 957(58.35%) and 539(32.86%). Frequencies of other diseases were Hypothyroidism 149(9.0%); Ischemic heart disease 142(8.65%); Bronchial Asthma 116(7.0%), Hyper cholesterolemia 103(6.3%), Valvular heart diseases 42(2.56%); Neurological diseases 40(2.43%); Arthritis 21(1.28%); while the renal diseases accounted for 11(0.67%).

Recommendations:

Hypothyroidism has come to be an important disease which accounted more cases next to Hypertension and Diabetes Mellitus especially among females (Male: Female 1: 8.31). A more specific epidemiological study to find out prevalence of Non communicable diseases is highly recommended.

Abstracts

PTSD symptomatology in adolescentsexposed to the war and the Tsunami in Northern Sri Lanka

Keshini Soysa,C. Sivananthan Jamunanantha

The present study investigated baseline levels of PTSD symptoms in response to war, and the potential additive effect of the 2004 tsunami, amongst adolescents living in the northern warzone of Sri Lanka.

Adolescents in the northern war zone were born during the war and although they had a brief respite during the ceasefire, they have never experienced life in peacetime. In order to examine the impact of war exposure, PTSD symptom levels were assessed in adolescents living in an inland village in the northern war zone of Sri Lanka.

The 2004 Tsunami affected most of the coastline of Sri Lanka, including the north-eastern war zone. In order to examine the impact of the tsunami on those already exposed to war, PTSD symptom levels were assessed in adolescents living in a coastal village in the northern war zone of Sri Lanka Hypotheses

1. PTSD symptom severity will be greater amongst those exposed to both the war and the tsunami, compared to those exposed to the war alone.

2. There will be no gender differences in PTSD intensity, as both girls and boys have had similar exposure to both the war and the tsunami. Method

Participants:

PTSD symptom levels were assessed in ninth graders (girls n=60; boys n=60), one year after the tsunami, and four years into the ceasefire, in early 2006. The participants lived in villages in the Northern war zone of Sri Lanka. Those living along the coast had greater exposure to the tsunami than those living inland, but both groups had about equal exposure to chronic war.

Procedure:

PTSD symptom levels were assessed through individual interviews with adolescents. Parental consent and child assent were obtained.

Materials:

The Harvard Trauma Questionnaire (HTQ) was used for the interview, where items 1-16 reflected DSM IV criteria for PTSD (APA, 1994).

Results An independent samples t-test was performed, where the independent variable was level of exposure to the stressor, and the dependent variable was PTSD symptom intensity one year post-tsunami. Hypothesis 1 was supported, where PTSD symptom intensity was higher with greater exposure to stress in the coastal group (Mean PTSD intensity = 2.78, Standard Deviation = 0.40) compared to the inland group (Mean PTSD intensity = 2.20, Standard Deviation = 0.43), and the difference between the two Means was significant, with $t(58) = 5.42$, $p < .000$.

Hypothesis 2 was supported, as statistical analysis indicated that there were no gender differences in the PTSD symptom levels either in the coastal group or the inland group. In the coastal group, the

Mean for girls = 2.84, Standard Deviation = 0.30, and the Mean for boys = 2.71, Standard Deviation = 0.48, and the difference between means was not significant, as $t(28) = 0.91$, $p > .05$. In the inland group, the Mean for girls = 2.22, Standard Deviation = 0.56, and the Mean for boys = 2.18, Standard Deviation = 0.25, and the difference between means was not significant, as $t(28) = 0.26$, $p > .05$.

Discussion

PTSD symptom levels in adolescents exposed to war were high, even four years into the ceasefire. Adolescents exposed to both the war and the tsunami reported even higher levels of PTSD symptomatology, one year post disaster. While the meaning of these symptoms might be different than in the west, the adolescents reported experiencing significant distress

In addition, there were no gender differences in PTSD intensity in either the coastal or inland groups in the Vadamarachchi region. As hypothesized, this may be because both girls and boys were about equally exposed to the war and the tsunami.

Low Birth Weight: Is maternal nutrition is associated with it?

Ethayarooban E , Dilan Jayanthan B A,Surenthirakumaran R,Sivaganesh S

Low birth weight is one of the main factors for most of the childhood morbidity and mortality as well as for chronic illnesses in latter part of life. Major determinants for low birth weight in developing countries are poor maternal Nutritional status at conception and low gestational weight gain.

A descriptive cross sectional study was done to identify the relationship between maternal nutrition, and low birth weight by using interviewer administered questionnaire with 524 mothers who delivered in maternity wards at teaching hospital Jaffna, during the period of 1st September to 30th September 2008.

Interviewer administered questionnaire was used to collect data. Recordings were also made from clinic books, registers of labor rooms and bed head tickets.

In this study low birth weight rate was 16.5%. Factors such low BMI of mother, number of parity, folic acid use prior to pregnancy, living in cemented house and house without proper chimney were statistically significant at p value 0.05 level. Food supplementation and home visits by PHM did not significant at same significant level.

Low birth weight is still a significant problem. Problem needs early interventions before pregnancy rather than after getting pregnancy.

Abstracts

Cancer incidence and pattern of cancer disease in Jaffna District

Surenthirakumaran.R, Pathmeswaran.A, Jeyakumaran .N, Sivaraja.N.

Background:

Incidence of cancer and related mortality are increasing in Sri Lanka. Regional variation in the incidence of different cancers has been reported.

Objective: To estimate the incidence of cancer and identify the common types of cancers in Jaffna district.

Methods:

Cancer disease diagnostic details in the records at cancer unit Jaffna from 1st of January 2006 to 31st of December 2008 were used. Coding of cases was based on the modified ICD10 classification used by Medical statistics unit of Ministry of Health.

Results:

During the three year period 768 cases (374 males) were registered at the cancer unit Jaffna. The estimated annual incidence of cancer was 47 per 100 000 population among both males and females. The five most common cancers, which contributed 65% of all cancers, in males were lip, oral cavity and pharynx (31%); oesophagus (13%); trachea, bronchus and lung (8%); larynx (7%) and prostate (6%). The five most common cancers, which contributed 71% of all cancers, in females were breast (30%); lip, oral cavity and pharynx (13%); oesophagus (10%); female genital organs (10%); uterine cervix (8%).

Conclusion: The estimated incidence is probably an underestimate as with any incidence rate calculated based on hospital based data. The common types of cancer in the Jaffna District are similar to the national pattern. The fact that limited types of cancers account for over two thirds of all cancers should be made use of in planning curative and preventive services.

Abstracts

Moving from open to laparoscopic appendicectomy an initial single centre experience in Jaffna

Rajendra.S,

Introduction:

Laparoscopic appendectomy(LA) in expert hands is now quite safe and effective, and is an excellent alternative for patients with acute appendicitis. The purpose of this study is to assess feasibility of performing LA in Jaffna.

Method:

Patients admitted to professorial surgical unit, TH-Jaffna with symptoms and signs of acute appendicitis, from 01.01.2009 to 01.7.2010, were included to this study. Patients with symptoms persisting for more than 3 days, obvious appendicular mass, appendicular abscess or ruptured appendix were excluded from the study. Patients admitted for interval appendicectomy were also included .

Open (Hasson) technique was used to create pneumoperitoneum. LA was performed by same surgical team, using 3 laparoscopic ports- umbilical port (10mm), suprapubic port (5mm) and left iliac fossa port (5mm). Appendix was grasped at its tip by atraumatic grasper inserted via suprapubic port. Dissection of appendicular mesentery was carried out with Maryland artery forceps attatched to diathermy . Extra-corporeal knotting performed for appendicular stump and amputation of appendix was carried out with scissors with occational use of diathermy. Appenix was delivered via the umbilical port.

Parameters assessed in this study were age and sex of patients, emergency and interval appendicectomy, operative time, conversion to open appendicectomy, timing of initiation of feeds after surgery, duration of postoperative stay and post operative complications.

Results:

37 patients (20 females and 17 males) underwent LA. Their age varied from 12 years to 48 years.

32 LA were performed for acute appendicitis and 5 were interval appendicectomies. One LA for acute appendicitis was converted to open appendicectomy.

Duration of surgery ranged from 100- 120 min for the initial five LA and it ranged from 40-50 minutes for the last 10 LA.

Oral feeds was started 12 hours after LA for all the patients. Duration of hospital stay after LA was one day.

As post operative complications following LA, one patient had stitch abscess at umbilical port and two patients developed minor port site superficial infection.

There were no significant morbidity or mortality following LA.

Conclusion:

The minimally invasive LA is safe and efficacious with good patient selection. As a single centre, performing LA for the first time in Jaffna, the results of the study are encouraging. The lengthier operative time at the initial period would be attributed to the learning curve of surgical team and adaptation of staff to laparoscopic system . Patients underwent LA had early post operative feeds and short hospital stay and minimal postoperative complications.

Abstracts

Prevalence of self reported postpartum morbidity and health seeking behaviour of mothers in Vavuniya District

N.Rajeshkannnan, A.Pathmeswaran

Introduction:

As there had been a great reduction in maternal mortality in Sri Lanka, it is timely to focus on minimizing maternal morbidity.

Objective:

To determine the prevalence of self reported postpartum morbidity and health seeking behaviour of mothers in the Vavuniya District.

Methodology:

A community based cross sectional study was conducted. Sample included all mothers (hospital and home deliveries) who had completed postpartum period between 1st August and 30th September 2007. They were identified based on the "expected date of delivery" registers. Data was collected by trained public health midwives at the respondent's houses using an interviewer administered questionnaire.

Results:

The mean age of the 540 postpartum mothers interviewed was 27.7 (range: 16 - 44) years. Forty three (8%) were teenagers and 50(9%) were >35 years. Majority 78 %(n=423) were Sri Lankan Tamils, 13 %(n=68) Sinhalese and remaining 9 %(n=49) Moors. Thirty nine percent (n=209) of them were primi parous, 81% (n=435) had a normal delivery and 79% (n=344) of them had an episiotomy.

Prevalence of post partum morbidities was 98 %(95%CI: 96.8-99.2; n=529). Commonly reported morbidities were back pain (57%; 95%CI: 52.8-61.2; n=308) fatigue (51.9%; 95%CI: 47.6-56.2; n=280) and perineal pain (46.7%; 95%CI: 42.5-50.9; n=252). Other important morbidities were, excessive bleeding (36.3%; 95%CI:32.3-40.3; n=196), dizziness (28.5%; 95%CI:24.7-32.3; n=154), constipation (23.7; 95%CI:20.1-27.3; n=128), breast problems (21.1%, 95%CI:17.7-24.5; n=114), gaping or pus from episiotomy (19.8%; 95%CI:15.6-24.0;n= 68), fever (19.6%;95%CI:16.3-22.9; n=106), anal-incontinence (16.5%; 95%CI:13.4-19.6; n=89), dysuria (12%; 95%CI:9.3-14.7; n=65), offensive vaginal discharge (9.4%; 95%CI:6.9-11.7; n=51) and urinary incontinence(6.3%; 95%CI:4.3-8.3; n=34).

The median number of reported morbidities was 5 (range: 014). Eighty seven percent (n=469) of mothers had 3 or more morbidities but only 46% (n=241) had consulted a health worker regarding their problem.

Conclusion:

Despite a very high prevalence (98%) of post partum morbidities only 46% of the mothers had consulted a health worker. It appears that the majority of mothers are suffering in silence.

Abstracts

Gender variation of psychological resilience among A/L students in Jaffna schools

Suthakaran V,Thirusun T, Sivarajah N,

Resilience is defined as a dynamic process that individuals exhibit positive behavioral adaptation when they encounter significant adversity or trauma. The people who are living in Jaffna district have been continuously exposed to catastrophic life events such as political violence, war, displacement, terrorism etc. The psychological trauma has had impact in different form to both sexes. In addition social and cultural practices have been more influenced on females in the form of psychological trauma. But there was no significant gender variation among those who developed psychiatric disturbances. They may have developed more resilience.

This study was planned to assess the gender variation of psychological resilience of this population using the translated RSA scale (Resilience scale for adults).This study was carried out on 2056 students attending the GCE (A/L) 2009 batch in the Jaffna educational zone. A sample of 300 (14%) was selected by stratified random sampling method. A sample was selected to represent the distribution of sex among population and subject. A self administered questionnaire was completed by students. Data was processed and analyzed by SPSS version 12.

Results show that females were more resilient than males. Overall resilient characters were well developed and all resilient characters like Personal strength (including perception of self and perception of future), social competence, Family cohesion, Social resources and structured style were positively skewed. However, the scores for structured style (the ability to uphold the daily routines) were the lowest and the scores for the social resources were the highest among individual resilience characters for both males & females. Utilized the social resources to overcome the adversity as well as provide support to others in critical situation and shared values(social resources) and support in the family as well as the family's ability to keep a positive outlook despite hardship(family cohesion) are more among females than males which is the reason for significant gender variation of psychological resilience of this population. There is no difference in personal strength between males and females. The environmental social and cultural practices and experiences and educational systems may have played a complex role in the development of more resilience among females than males in this population. But so far, we are unable to find any study to exclude the relationship of resilience with genetic factors.

Females show more resilience than males which help them to compete with males and achieve equal opportunity in the community social system.

Abstracts

Psycho-social consequences and resilience amongst widows who lost their husband in extra judicial killings in Jaffna Srilanka.

Surenthirakumar R, Jeyadinesh V, Mayooran M, Sivayokan S , Sivarajah N

Introduction:

The death of a spouse causes various psycho-social consequences in young widows regardless of cause of death. But increased number of extra-judicial killings in Jaffna leads to abnormally complicated reactions among them.

Objective:

Aim of this study was to find out the psycho-social consequences in young widows who lost their husband in extra judicial killings.

Methodology:

47 widows were studied in this descriptive study. Pre-designed, interviewer administered questionnaire and culturally adopted Tamil translation of Inventory of Traumatic Grief (ITG) were used to collect data.

Results:

More than 95% of killings made by fatal gun-shot injuries, and 23% of killings were witnessed by the widows, whose mean age was 27. According to ITG, 46.8% of this population had the diagnosis of traumatic grief (TG). The incidences of TG decreased significantly post-killing and also according to age of widow. TG was shown to increase with number of exposures to previous war stressors, and the women were witness to her husband's killing. The functional ability of the widows as determined by the survey decreased with increased TG. Seventy five percent of women surveyed expressed isolation from their community, and 28% experienced symptoms of Psycho-somatic diseases such non-specific joint and back pain.

Conclusion:

The study, although limited in scope and depth of assessment of the protective and risk factors, are significant in revealing the impact of such extra-judicial killings on women's psychosocial impact and survival. Further targeted interventions are needed to support such women. Within resource poor conflict affected settings this forms a formidable challenge.

Abstracts

Knowledge of hand washing and some influencing factors among nurses at Teaching Hospital Jaffna.

Thineshan.S, Vasakan.B, Surenthirakumaran.R , Murugananthan.K

Nosocomial infections are major problem in health care facilities and the infection rates are generally likely to be higher in teaching hospitals, compared to non-teaching ones. Nurses and nurse practitioners who generally have more contact with patients and play a major role in preventing the health care associated infections by using the knowledge on infection control.

A descriptive cross sectional study was carried out to the assess knowledge of hand washing and to determine the factors influencing the knowledge on hand washing among randomly selected 128 nursing officers working at Teaching Hospital Jaffna during May 2009 to October 2009.

The knowledge of hand washing was assessed by using self administered questionnaire which included questions about hand washing products, hand washing technique, indication for hand washing and skin care. Influencing factors on hand washing, such as working experience, working unit, job status, marital status, and family type were collected. Data analysis was done by using Statistical Package of Social Sciences 17 (SPSS 17).

Out of 128 nurses, 37(29%) had poor knowledge about overall knowledge of hand washing. Only 19(14.8%) had poor knowledge about indications of hand washing. The majority of the nurses 87 (68%), 102(79%) had poor knowledge regarding hand washing technique and skin care respectively. More than 75% of nursing officers who were working in the surgery and surgery related units, operation theatre and special care units had adequate knowledge regarding hand washing mean time only 43% of nurses who were in the obstetrics and gynaecology units had adequate knowledge regarding hand washing. Except working unit of the nurses, other factors such as working experience, job status, marital status, and family type were not significant with the overall knowledge of hand washing.

Significant numbers of nurses were not having sufficient knowledge in various aspects of hand washing. Most of the nurses showed poor knowledge on the hand washing technique and skin care lines.

Regular in-service training programmes on hand washing at the institutional level would improve the knowledge.

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