

The **ORION** Medical Journal



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Editorial

- 450 The school age children: Their nutrition and health
Jahan K

Special Articles

- 451 Recent advancement in neuroanaesthesia
Afroza S
- 454 Treatment & sequelae of pelvic inflammatory disease
Nasreen SZA

Original Articles

- 455 Total abdominal hysterectomy with vault sling significantly reduces vault prolapse in vulnerable women
Khanam RA, Sultana N, Begum K Zohora TH
Mridha TK, Rashid HU
- 458 Evaluation of the result of dynamic hip screw fixation in unstable trochanteric fracture of femur
Islam KM, Alam M, Mahmud AA, Ahammed S
- 463 Rate of caesarean operation and complications in hypertensive disorders of pregnancy
Ganguly S, Begum A

Review Article

- 467 Management of diabetes mellitus in surgery :
A simple & safe protocol
Mustakim A

Case report

- 470 Klippel-Trenaunay Syndrome : A case report
Rashid AKMM, Begum F, Ashrafuzzaman M, Alam MS
- 472 Resection of pineal region epidermoid in semisitting position : A case report
Alam S, Khair A

Letter

- 475 Transferring latest vascular intervention technology to NICVD from USA hospitals : PFP initiative
Alam SAN

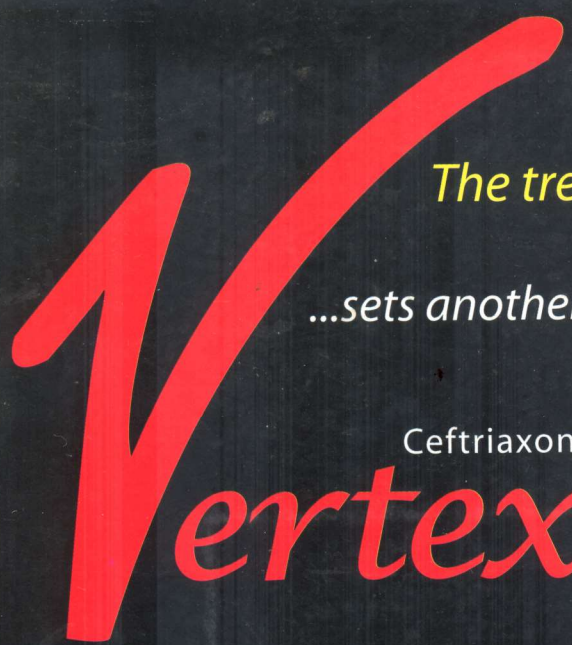
Launching of New Products

MSD News

Medi News

Pep Corner

Information for Authors



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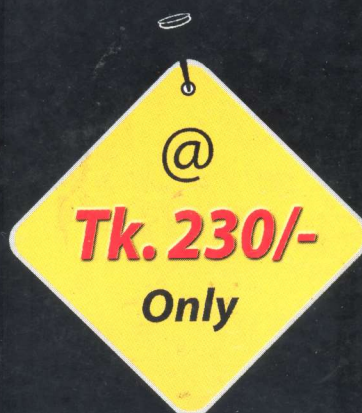
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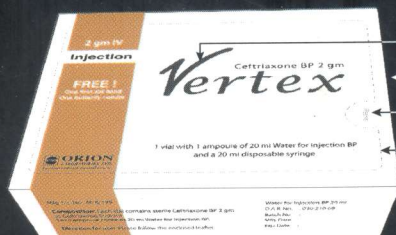
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Editor's Choice

The ORION, touching, 9 years

"The ORION", with this 27th volume is going to touch the victory of relentless nine years of success and this immeasurable achievement compliments all the readers and the respective members who are attached at every moment of the journey. The journal is persistently bestowing the doctors' community in Bangladesh with a specialty, "avowing local doctors" internationally with their research works since 1998. This accomplishment will be assured the editors and the respective members of "The Advisory & The Review Board" to expedite advancement of 'The ORION' every moment. Therefore, this Bangla New Year issue incorporates two (2) special articles, Three (3) original articles, one (1) review article & two (2) case reports to be aligned into broad medical spectrum.

Editorial of this volume "The school age children: Their nutrition and health" (page-450) converges on the nutritional status and its effects on various activities of the school going children and suggests to improve this condition especially in the urban areas.

A special article "Recent advancement in neuroanaesthesia" (page-451) gives updated information about neurosurgery and neuroanaesthetic procedures and techniques. Thereafter another special article "Treatment & sequelae of pelvic inflammatory disease" (page-454) focuses early recognition & appropriate treatment of PID can prevent many complications.

A recent procedure for repairing of vaginal vault prolapses which is relatively common in the women after hysterectomy is informatively established in an original article "Total abdominal hysterectomy with vault sling significantly reduces vault prolapse in vulnerable women" (page-455). Another original article "Evaluation of the result of dynamic hip screw fixation in unstable trochanteric fracture of femur" (page-458) reveals a study on 36 patients with unstable trochanteric fracture treated by dynamic hip screw fixation. Another original article "Rate of caesarean operation and complications in hypertensive disorders of pregnancy" (page-463) reveals hypertension during pregnancy remains an important cause of maternal and fetal morbidity and mortality; this issue suggests early detection and treatment will keep mild hypertensive disorder under well control and will reduce the incidence of severe pre-eclampsia.

The review article on "Management of diabetes mellitus in surgery: A simple & safe protocol" (page-467) is focused on the diabetic patients undergoing surgery and the aim should be to have optimal control of diabetes.

The case report "Klippel-Trenaunay Syndrome : A case report" (page-470) nicely documents the observations of this rare case in a new born baby born with swelling of the lower limb. Another case report "Resection of pineal region epidermoid in semisitting position : A case report" (page-472) is on a 25 year old woman with pineal region mass which was managed by endoscopic 3rd ventriculostomy and supracerebellar infratentorial approach in semi sitting position first in our country.

A scientific letter on "Transferring latest vascular intervention technology to NICVD from USA hospitals" (page-475) briefly describes the latest technologies and development in vascular surgery in three renowned hospitals of USA.

Further opinion and suggestions are highly encouraged for development of the ORION. The journal makes freely available at www.orion-group.net/journal for contributing the advancement of public health and medical research. For reproducing multiple copies of any of 'The ORION' articles, please e-mail: orionmsd@dhaka.net / journal@orion-group.net / orionjournal@yahoo.com & mention the article title, author's name, volume, page number, year of publication and mostly the purpose for reproducing.

May the Almighty bless all in the spirit of good health. Wish all a very colorful Bangla New year 1414.

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The school age children: Their nutrition and health

Jahan K¹

The ORION 2007; 27: 450

Half the world goes hungry everyday and countless thousands are struggling to survive with an income of less than US\$2¹ per capita per day. Children of Afghanistan, Southern Africa and Ethiopia are in serious situation. Afghan parents get relief if their children are able to get a place in an orphanage because they are simply unable to feed them. These are the reports of children being sold for bags of wheat¹.

The startling consequence of poverty in Bangladesh is that more than 50 percent of the population is the victim of some form of malnutrition. Many thousands of children do not get enough food and enough right kinds of food to eat to grow. They do not grow up as clever, as healthy and as tall as they should be at their full potential. Thousand of children die every year before they reach their five years of age due to malnutrition and related diseases. Recent studies show that high level of nutritional deprivation combined with heavy burden of diseases in school age children has negative consequences for a child's long term development. The Bangladesh National Nutrition survey conducted in 1995-96 shows that great majority of children in this vulnerable age group suffer from high rate of physical retardation, micronutrient deficiencies specially Iron, Iodine, Calcium and Vitamins.

A child who eats no breakfast performs poorly in tasks of concentration, his or her attention spans are shorter and even shows lower IQs on testing than his well fed peers. We can not expect this child to learn and perform good work or get good grade when no fuel has been provided when he really needed it.

The problem that arises when the children attempt having school work on an empty stomach may be due to hypoglycemia. The average child up to the age of 10 or so needs to eat every four to six hours to maintain a blood glucose concentration high enough to support the activity of the brain and nervous system². Brain is the chief glucose consumer. A child's liver is considerably smaller and the liver is the organ responsible for storing glucose (as glycogen) and releasing it into blood as needed. A child's liver cannot store more than about 4 hour's worth of glycogen and hence he needs to eat fairly often. A teacher aware of the late morning slump in their class rooms wisely request that a midmorning snack be provided. It improves class-room performance all the way to lunch time. School lunches are designed to meet the needs of growing children.

The consequence of malnutrition is indicated by anthropometry (stunting, wasting and underweight), childhood morbidity and mortality, poor physical and mental development and school performance, reduced adult size and capacity for physical work. Malnutrition exacerbates the effects of infections. Malnourished children have more several diarrhoeal episodes as measured by duration risk of dehydration and associated growth faltering. They also have a higher risk of pneumonia. Infection can affect the growth of children in several ways; one of these is the reduction of intake and poor utilization of ingested nutrients. In addition the body has an inflammatory response to many infections.

Inflammation may reduce the length of bones because of systemic and local disturbance of normal growth.

According to ACC/SCN³ working group of vitamin A and Iron (SCN 26th session, 1999) an estimated 140-250 million pre-school children suffer from sub-clinical vitamin A deficiency, thus carrying increased mortality related risks. Globally one hundred and seventy million children are underweight, 208 million are stunted and 49 million are wasted. More than 900 million people suffer from goiter, 16 million are severely retarded and another 50 million suffer from other form of brain damage due to iodine deficiency.

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Over 2000 million people are affected by anaemia and iron deficiency. About 22 million children and more than 200 million adults are obese and thus are at a significant risk of being exposed to a range of serious non-communicable diseases and other threat to health³.

Although nutrition is multidisciplinary food is the principal determinant. Initiatives for increasing food and nutrient intake of this sector of population should be carefully undertaken.

The synthesis of all these findings suggests that a child's ability to attain his or her potential is directly related to the combined effect of good health, good nutrition and appropriate education. Improving the health and learning of school children through school based nutrition and health program is fundamental to the solution of present crisis.

Effective implementation of access to health and nutrition services within the school⁴ health programs should be done. School feeding must take place within the context of broad national school reform programs which includes teachers development, curriculum reformation and periodic student assessment.

For a good nutritional status it is important for children to start their day with a good breakfast which provides a good part of total intakes of nutrients.

Breakfast and school lunch menu should contain all the nutrients required for the children. The careful food choices can ensure adequate nutrition. The design is intended to provide at least a third of the Recommended Daily Allowances (RDA) for each of the nutrients.

Nutrition education program should be an important component of the Nutrition and Health program of the school along with the school lunch program. Emphasis should be given on creating methods for teaching nutrition which may include story telling, puppets and games. In the classes where computers are available, a number of nutrition education programs may be promoted beginning at the pre-school level.

Television may be a good media to gain nutrition at knowledge.

A school vegetable garden or orchard can provide foods with valuable extra nutrients for mid-day meal.

Poultry keeping, small animal production for meat and fish pond construction in areas where they are suitable, are educative project and can provide food for a school meal.

Some schools are boarding schools. They usually provide three meals a day, but menu should be based on recommendations made to the school by some one with dietetics training.

Increasesly in urban areas and even to some extent where more urban facilities are available, the entrepreneurs set up stalls near schools so that they can prepare and sell foods to school children. These 'Street foods' often have the advantage of providing access to ready foods at cheaper rate. But disadvantages include poor hygiene, poor quality of food and often high prices.

The health of school children also need due consideration for school health services, safe food, healthy environment, safe water and hygienic latrine system which should be ensured within the program.

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Recent advancement in neuroanaesthesia

Afroza S¹

The ORION 2007; 27: 451-453

Introduction

Neuroanaesthesia has changed beyond all recognition since the advent of neurosurgery as a specialty. Neuro-anaesthesiologists today besides providing perioperative care to neurocritically ill patients are being asked to provide more and more assistance to patients for neuro-intensive care, neuro-radiology and neonatology. Whilst the changes that have occurred in the last decade, the period has seen a steady evolution of anaesthetic techniques in the operating theater, radiology suite and neurocritical care settings. These changes stem from our greater understanding of the cerebral physiology, pathophysiology and from the development of new anaesthetic agents.

History and development of neurosurgery

Asian countries, especially China and India, enjoy a long history of neurosurgery. Neurosurgery in each Asian country has developed differently.

The history of neurosurgery in Hong Kong dates back to 1956, with the arrival of the first neurosurgeon, Hsiang-Lai Wen¹.

But in South Asia especially in our neighbouring country India, neurosurgery was started in 500BC, at that time Sushruta used to perform his surgery with the help of concoctions of Indian hemp, opium and wine. The first cranial operation was made in 527AD by Raja Bhoj².

The first neurosurgical independent department was started at CMC Vellore by Jacob Chandy in 1948³, though until 1965 all cases were anaesthetized breathing spontaneously, specially to have respiration as a guide to the extent of damage caused by surgery or raised intracranial pressure.

Neurosurgery service in Indonesia was started in 1948 by C.H. Lenshoek, a Dutch neurosurgeon who established the first neurosurgical clinic in the Princess Margriet Hospital, in Jakarta³.

The first neurosurgical operation in Japan was performed by Susumu Sato, an army doctor, during the domestic South-Western War in 1877³.

The first neurosurgical operation in the history of Pakistan was performed by Jooma in October 1951, a thoracolumbar laminectomy for a spinal cord tumour³.

In Nepal, Dinesh Nath Gngol started neurosurgery by performing sub temporal decompression on a head injured male at Bir Hospital in 1961³.

Since the very onset it has been recognized that neurosurgical procedures needed specialized skill from both the surgeon and the anaesthesiologists.

Victor Horsley (1880-1886), father of neurosurgery in England

described the effects of ether, chloroform, and morphine on ICP⁴. William Macewen (1878), a Scottish neurosurgeon, made strong recommendation that only a trained individual should administer anaesthesia⁵.

Harvey Cushing (1889), the pioneer American Neurosurgeon emphasized that quantitative approach to neuroanaesthesia is essential for the development of safe neuroanaesthesia⁶.

Fedar Krause (1897), the father of German Neurosurgery advocated normothermia for neurosurgical procedure and he believed that brain tissue is pain insensitive⁷.

In Bangladesh neurosurgery as a speciality was started by Dr. Rashiduddin Ahmad in Dhaka Medical College, although he himself as appointed in then IPGMR.

After that day by day number of neurosurgery is increasing both in govt. and private institutions.

Areas where the advancement is evident

Monitoring: Patient with neurologic disease undergoing surgical procedures have an increased risk of ischemic/hypoxic damage to the central nervous system. The risk may be related to hemodynamic / embolic events associated with a non neurosurgical operation. The risk may also be inherent in the neurosurgical procedure, e.g. temporary clipping of feeding artery during cerebral aneurysm surgery.

Current approach due to recent advances in monitoring system, a safer effective neurosurgery and neuroanaesthesia has evolved. Intra-operative neuro monitoring may improve patient outcome by (a) allowing early diagnosis of ischemia/hypoxia before irreversible damage occurs and (b) enabling surgeons to provide optimal operative treatment as indicated by the monitoring parameters.

Routine monitoring during neuroanaesthesia, in recent days includes, electrocardiography, direct arterial blood pressure monitoring, pulse oximetry, end tidal capnography, urine output, temperature, central venous pressure, TEE (trans esophageal echocardiography; to measure venous air embolism), bispectral index (to monitor depth of anesthesia and also as a guide of dose adjustment of sedatives), EEG (monitored to assure cerebral well-being when a full neurologic examination can not be done and also to measure EEG suppression while using barbiturate therapy when the brain is at risk for ischemia and barbiturate as cerebral protection). In broad headline, the brain can be monitored in terms of (a) function, (b) blood flow, and (c) metabolism.

Cerebral protection: The preemptive use of therapeutic interventions to improve neurological outcome in patients who will be at risk for cerebral ischemia, is cerebral protection and the primary object of neuroanaesthesia is prevention of the deleterious effects of ischemia.

For clinical cerebral protection, there are non pharmacological

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and pharmacological therapies. Among the non pharmacological treatment are hypothermia, avoidance of hyperglycemia, avoidance of hypotension, hypoxia and hypercapnia, hemodilution, normalization of increased ICP, correction of acidosis and electrolyte imbalance.

The pharmacological treatments are use of barbiturate, other intravenous agents, opioids, benzodiazepines, calcium channel blockers, inhalational agents, anticonvulsants etc. There are also some experimental drugs like NMDA receptor antagonists e.g. Dizocilpine maleate, Magnesium, Glycine binding site antagonism, Sodium channel blockers, Tirilazad, a lipid soluble 21 amino steroid etc⁸.

Neuro vascular procedures: The neurovascular diseases like aneurysms and Arteriovenous malformation (AVMs) and several strokes can be managed by endovascular treatments. Therapeutic embolization of AVM done as a primary treatment or as a pre surgical adjunct to facilitate operative removal with less bleeding in patients with AV-fistulas, hypotension slows the low flow through the fistula and provides for a more controlled deposition of embolic materials and is used in these procedure. When glue is injected into a vessel there remains the risk of the glue causing inadvertent vascular occlusion or obstruction of the pulmonary circulation especially in small children with large AVMs. Therefore the anaesthesiologists may need to intervene on an emergency basis. The target blood pressure in the post procedure period should be maintained 10-20% below the patient's normal blood pressure to prevent normal perfusion pressure break through⁹.

Neuro radiology: The basic approach for Interventional neuro radiology therapy are occlusion of the proximal parent artery and obliteration of the aneurysmal sac. In this case the anaesthesiologists should be prepared for aneurysmal rupture and acute Sub Arachnoid Haemorrhage (SAH) at all times either because of spontaneous rupture or due to perforation of the wall during vascular manipulation.

Strokes: Several types of impending strokes are now amenable to endovascular treatment including vasospastic and atherosclerotic ischemic strokes. Vasospastic ischemia and stroke may occur following SAH. Vasospasm refractory to medical treatment can easily be managed through endovascular approach.

Stereo static procedures: More recently stereo static procedures are applied for ablation of neural structures or placement of chronic stimulating electrode either by computerized tomography and microelectrode recording and stimulation guiding technique. All these procedures are very effective for the patients with movement disorder e.g. Parkinson diseases¹⁰. Recently neurosurgery also advanced in the treatment of epilepsy in which several options are useful in decreasing the morbidity and mortality rates of seizures.

Miscellaneous: Another significant development towards Minimally Invasive Surgery (MIS) is endoscopic procedures in the treatment of hydrocephalus in which an endoscope is used to resect and cauterize the offending lesion. It is also used in clipping intracranial aneurysm¹¹.

Stereotaxy, to touch a point in space has long been used in neurosurgery. This procedure includes fixing a frame on the patients head and access a point in the depth of the brain

through atlas and imaging. For some limitations in imaging quality, stereotaxy was used to biopsy only¹².

Radio surgery is yet another giant leap forward. Pin point irradiation of small tumour and AVMs in the brain can easily be managed with Gamma knife treatment which is nothing but a neuro radiological procedure where high dose of radiation delivered in a single stage to a small critical volume deep inside the brain, a tumour or an AVM to destroy it without opening the skull.

Gamma knife radio surgery used in Trigeminal neuralgia when medical therapy fails there is role of surgical treatment in the form of micro vascular decompression or percutaneous technique like thermal rhizotomy by radiofrequency lessening, glycerol rhizotomy and balloon compression¹³.

All these neurosurgical procedures may need the help of neuro-anaesthesiologist from the beginning or may at some stages of the treatment, but principle of neuroanaesthesia is being followed meticulously during anaesthesia and all these are possible with the modern advancement of pharmaceuticals and understanding of neuro physiology for cerebral protection and its proper implication.

The newer anaesthetic techniques e.g. Total Intravenous Anaesthesia (TIA) may replace the conventional O₂:N₂O inhalational anaesthesia in certain neuro surgical procedure where neuronal activity recording is necessary. Mild hypothermia (core temperature 32-34° c) is gradually gaining popularity for brain protection during neurosurgery.

Conclusion

As a third world country, Bangladesh being a member of South Asia country has also been in the race of development of neuroanaesthesia and now claiming its rightful share. From the year 1970 in Govt. Sector, later in Bangabandhu Sheikh Mujib Medical University (ex PG Hospital), Combined Military Hospital, other private hospitals and few clinics neurosurgery developed in uneven magnitude. From 2005 in private set up like Apollo Hospitals Dhaka (AHD), an appreciable number of neurosurgical procedures with an international standard have been performed. If we go through an unpublished data, the number of neurosurgery done in year 2006, about 2000 in govt. sector and about 800 in private hospitals. In 2005, this data is approximately about 1850 and 400 respectively. Among the private institutions, about 30% neurosurgeries done in Apollo Hospitals Dhaka in 2005 and about 60% in 2006. Then one can see that private sectors are now undertaking greater load in terms of responding to the need of neurosurgical procedures.

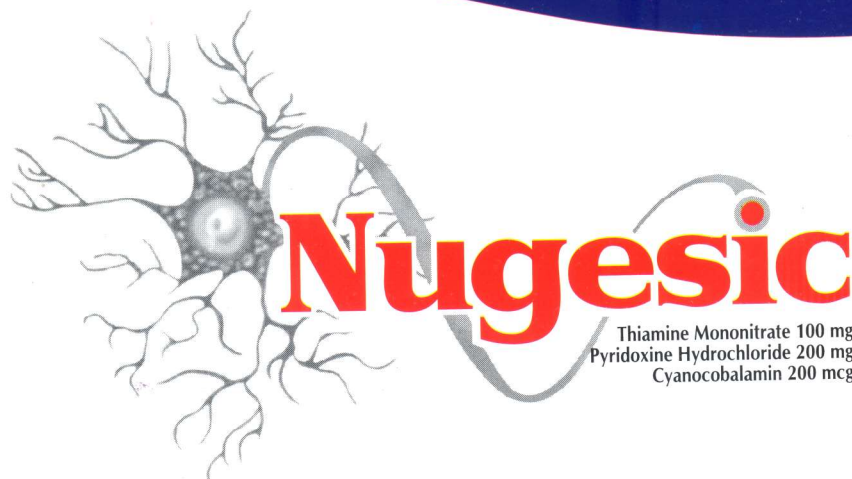
Now a days, in addition to Neuro critical care unit, Intervention neuro radiology, newer surgical procedures like endoscopic surgery, aneurysm surgery, spinal surgery, pediatric neurosurgery etc have also been performed in Bangladesh. We hope that the way neurosciences are getting recognized in our country; a bright future awaits for the specialty. But this can be done with the help of trained neuro anaesthesiologists, some thing the country is seriously lacking at the moment.

If we look at some of our Asian neighbors, we will observe that there are societies of neuroanaesthesia, independent neuroscience institutions or centers that following different training programmes including super speciality doctoral

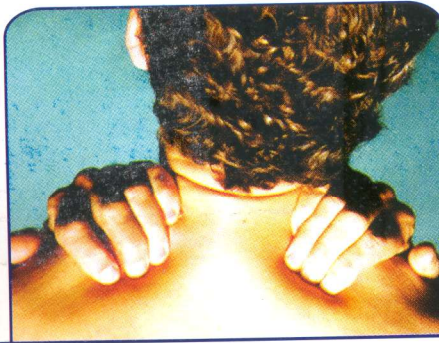
courses (DM), Post Doctoral Certificate Course (PDCC), Post Doctoral Fellow (PDF) in neuroanaesthesia, but none is existing in our country. So in future if we want to join the race of the new era of the development of neurosurgery as well as neuroanaesthesia, a positive outlook would be necessary for required development in the specialty.

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Treatment & sequelae of pelvic inflammatory disease

Nasreen SZA¹

The ORION 2007; 27: 454

Introduction

Pelvic inflammatory disease (PID) refers to acute infection of the upper genital tract, involving any or the entire uterus, oviducts and ovaries. Since none of the diagnostic tests is highly specific & sensitive there is no single diagnostic gold standard. So clinician must have a low threshold for considering the diagnosis and must be prepared to initiate empiric antibiotic therapy as late sequelae of PID remain common and even more expensive. Nevertheless any young woman with low abdominal, adnexal & cervical tenderness¹ with any of high ESR, leucocytosis, raised CRP, endocervical swab + ve & USG of pelvic collection should be considered having PID.

Treatment indicated as OPD or as inpatient.
Recommendation of hospitalization includes-

- ◆ Having surgical emergencies.
- ◆ Do not respond to outpatient therapy.
- ◆ Pregnant ladies (Though PID is rare).
- ◆ Who are clinically very ill.
- ◆ Having Pelvic Abscess.
- ◆ Who are immunodeficient.

Outpatient therapy

Oral Levofloxacin (500 mg once daily) or Ofloxacin (400 mg twice daily) for 14 days¹.

Parenteral therapy can be used as an alternative. Ceftriaxone 250 mg I.M or Cefoxitine 2 gm I.M followed by Doxycyclin 100 mg twice daily for 14 days. For younger woman less than 18 yrs should have parenteral therapy. Doxycyclin can be replaced by Azithromycin 1 gm during parenteral administration of Cephalosporin.

Inpatient therapy

Broad spectrum Cephalosporin- Cefoxitine or Ceftriaxone 2 gm I.V 12 hourly with Metronidazole (500 mg 8 hourly), on the other hand Clindamycin (900 mg I.V 8 hourly) with Metronidazole or either Ofloxacin or Amoxiclav along with Metronidazole could be used initially.

Parenteral antibiotics need to be continued for 24 hours after a clear clinical response, followed by Azithromycin 1 gm orally or Doxycyclin 100 mg B.D for total 14 days.

Every treatment for PID must be accompanied by an intensive discussion of the pathophysiology of disease & future prevention & concomitant need for partner treatment.

Sequelae

Most of morbidities arise from scarring and adhesion formation that accompany healing of damaged tissue after infection. These effects take at least three forms- *infertility, ectopic pregnancy, chronic pelvic pain*.

Infertility: Women with tubal factors infertility occurs due to damage & tearing of tubes by PID, symptomatic or asymptomatic PID produce indistinguishable permanent injury to the Fallopian Tubes most particularly their internal epithelium².

Ectopic pregnancy: Approximately 10-13% of conception will be ectopic after laparoscopically mild to moderate PID & almost 50% after severe PID³. Among women with prior ectopic pregnancy & clinical PID, 60% of conception were recurrent ectopic pregnancy⁴.

Pelvic pain: About 1/3 to 1/2 of women with symptomatic PID develop chronic pelvic pain⁵. This syndrome presumably results from adhere and tethering or fixation of organs intend to enjoy freedom of movement & expansion during physical activity, coitus & ovulation.

Sex partners: Male sex partner of women with PID should be examined and treated if they had coitus with the patient during previous 60 days.

Conclusion

Early recognition & appropriate treatment of PID can prevent many of the complications particularly infertility. It is also important to screen other sexually transmitted disease during treatment of PID.

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Total abdominal hysterectomy with vault sling significantly reduces vault prolapse in vulnerable women

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The ORION 2007; 27: 455-457

Abstract

Prolapse of the vaginal vault after hysterectomy is not an uncommon complication. It may be due to faulty operative technique, uncorrected enterocele, congenital or acquired weakness of the supports of uterus. A prospective case control study was carried out in Dhaka Medical College Hospital and two private clinic from January 2002 to December 2006. The objective of the study were to find out the number of cases of vaginal vault prolapse and any specific or unusual post operative or remote complications after fixing an autologous sling to the vaginal vault. Age range of the patients were from 30-45 years. About 55% of women were from village and hard working. Due to poor nutritional status and multiple child birth with minimum birth spacing all the uterine support were very weak and vagina was found lax with first or second degree perinial tear. In all cases pouch of douglas was found very deep peroperatively. So vault sling was done in those vulnerable cases with rectus sheath sleeve. Average post operative hospital stay was 6 days. 75% of the patient complained pain in both iliac region along with the usual post operative pain upto 3rd or 4th day and 10% complained slight dragging pain at the same point upto 6 weeks post operatively. There was no vault prolapse during consecutive three (3) years followup period. The technique of vault sling is very simple & needs only few minutes to complete the procedure without extra financial cost.

Introduction

Vaginal vault prolapse occurs in women who have undergone normal hysterectomy. The top of the vagina come down partially or completely¹. The commonest reason for this is that, the uterine supports that were cut down during hysterectomy were not reattached to the vault properly or congenital or acquired weakness of supports of uterus or uncorrected enterocele^{2,3}. When the upper portion of the vaginal tissue losses its normal shape and sags or bulges down into the vaginal canal or out side the vagina it may cause pelvic heaviness, backache, stress incontinence, painful intercourse and difficulties in walking⁴. It may occur alone or with bladder, urethra, rectum or small bowel due to weakness of the pelvic tissues and vaginal tissues and muscles⁵.

Pelvic organ prolapse and stress incontinence are common disorder and affecting at least 30% of adult women. Women have a risk of 11% for at least one surgical correction of pelvic floor dysfunction and 30% procedure for recurrent prolapse⁶. One of the arguments for performing an abdominal procedure is that, it maintains normal length and caliber of the vagina⁷. Some times for various indications like fibroid uterus, pelvic inflammatory disease, suspected adhesions, associated ovarian tumour, endometriosis demands abdominal hysterectomy but factors aggravating the vault prolapse may be present⁸. A less time consuming, cost effective autologous sling of the vault of the vagina during abdominal hysterectomy can prevent this complication in post hysterectomized women vulnerable for vault prolapse.

Objective

The objective of the study were to find out -

1. The proportion of vaginal vault prolapse occurring in women with sling and without sling operation.
2. Any specific post operative or long term complications after prophylactic sling.

Methodology

This prospective, case control study was carried out in Dhaka Medical College Hospital and two private clinics. Study period was from January 2002 to December 2006 including 3 (Three) years followup of each patient.

The women who required total abdominal hysterectomy but with very weak uterine support or very deep pouch of douglas or have some degree of genital organ prolapse or have to perform heavy work were the study population. By random selection some were selected for sling of the vaginal vault with the sleeve made from rectus sheath after completion of hysterectomy and some were selected for traditional method of total abdominal hysterectomy. Result were compared between these two groups. The process is ongoing but follow up result of a small series consisting of 40 patients were compiled in this study. Among these women 20 have sling for vaginal vault with rectus sleeve and considered as case and another 20 women having conventional hysterectomy were the control. Post operative pain, hospital stay, post operative dyspareunia, incisional hernia, micturation difficulties and subsequent vault prolapse were looked for.

Procedure of vaginal vault sling

Abdomen was opened by pfannenstiell incision 2 cm above the symphysis pubis in all cases for abdominal hysterectomy. After completion of total abdominal hysterectomy with vault closure a 2cm sleeve was prepared by rectus sheath. The sheath was divided at the middle. Passing each sleeve through the deep inguinal ring the medial end of each sleeve was taken into the abdominal cavity and anchored at the angles of the vaginal vault.

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Figure: Showing the width of rectus sleeve Figure: Medial ends of the sling has taken in the abdominal cavity

The sleeves were sutured to the posterior leaf of the broad ligament by interrupted stitch.

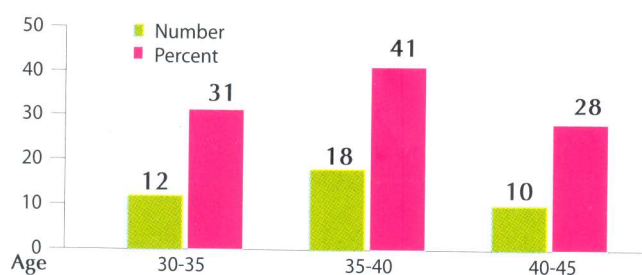


Figure: Fixation of sling with the angle of vault Figure: Medial end of the sling has fixed at both lateral angle of vaginal vault

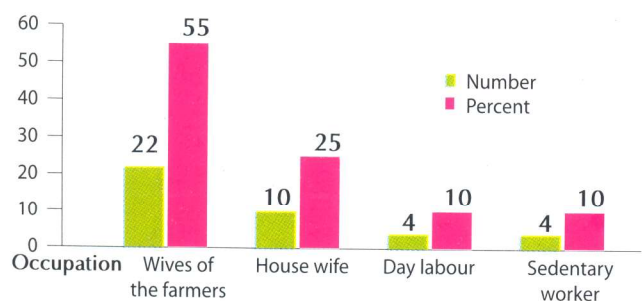
During suturing of the rectus sheath, the area from where rectus sleeves were taken, was sutured meticulously to avoid any weak point leaving behind. Skin closure was as usual.

Results

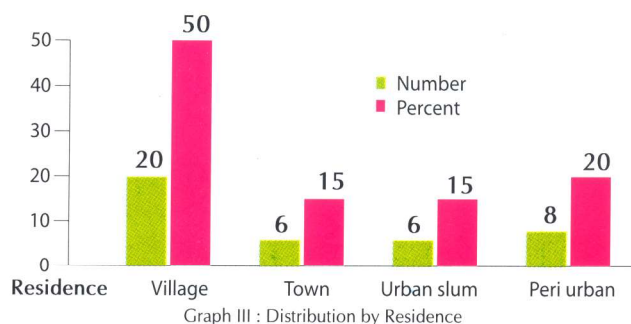
Fourty (40) patients were studied in this series who were of different age group and total abdominal hysterectomy with or without salpingo-oophorectomy was done for a variety of indications.



Graph I : Distribution by age



Graph II : Distribution by occupation of the women



Graph III : Distribution by Residence

Table I : Indication of Total Abdominal Hysterectomy

Name of the disease	Number
Fibroid uterus	6
PID with lax vagina	6
DUB with first degree uterine descend with bilateral tubal ligation	6
Chronic cervicitis with mild cystocele & mild recto & enterocele	8
Adenomyosis with mild enterocele with deficient perinium	4
Adenomyosis with elongated cervix	2
Ovarian cyst with first degree uterine descend	4
Fibroid with mild cystocele with mild rectocele with lax vagina	4

Total = 40

In all cases the pouch of douglas was very deep. Due to poor nutritional status of the women and multiple child birth with minimum birth spacing supports of the uterus were weak. The vagina was lax with first or early second degree perineal tear. So sling was done in these cases with the rectal sleeve. Average hospital stay was 6 days.

Pain in both iliac region (at the base of the rectal sleeve) complained by 75% of the patients along with the usual post operative pain upto 3rd or 4th day.

Slight dragging pain at same point complained by 10% patients up to six weeks post operatively.

Table II : Duration of the dragging pain after operation: (Sling group only)

Time (days)	Number	Percent
02	15	75
04	3	15
06	1	05
08	1	05
>08	0	00

Complains of Dysparuenia after six weeks of operation was nil (0%) in sling group but 3 (15%) patient of nonsling group.

During 3 years followup period none of the sling group developed incisional hernia, vault prolapse, stress incontinence or any difficulties during micturation, but at the end of the three years about 6 (30%) patient developed stress incontinence and 3 (15%) developed vault prolapse in non sling group. Statistical analysis was done by Chi- square test. and result was highly significant e.g P value was <.001.

Discussion

Abdominal sacral colpopexy is considered the gold standard for vaginal apex fixation but in long term studies showed that it

is not ideal for all and it has some severe morbidities⁹. Laparoscopic uterosacral suspension needs higher level of laparoscopic skill and puts the ureters at risk of injury¹⁰. In uterosacral suspension/modified McCall procedure attachment done in ipsilateral uterosacral ligament to the vaginal cuff¹¹. The author has searched for same type of studies done in home and abroad but could not find out. There are studies on uterine sling but no study for preventing the vault prolapse after hysterectomy by using prophylactic sling of vaginal vault with rectus sheath.

Conclusion

The technique of vault sling is very simple. Needs only few minutes to complete the procedure without extra financial cost. There is no added post operative complication but benefit is remarkable. So this procedure can be adopted for those women, who has predisposing or precipitating factors for vaginal vault prolapse in future.

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Evaluation of the result of dynamic hip screw fixation in unstable trochanteric fracture of femur

Islam KM¹, Alam M², Mahmud AA³, Ahammed S⁴

The ORION 2007; 27: 458-462

Abstract

Background: Fracture of the neck of femur is the common injury seen in the orthopaedic practice. Aim of the study was to evaluate the result of Dynamic Hip Screw (DHS) fixation in unstable trochanteric fracture of femur. **Method:** 36 elderly patients, above the age of 50 years who presented with unstable trochanteric fracture in the Department of Orthopaedic surgery BSMMU from July 2004 to June 2006 were treated operatively by DHS and were followed up for a mean period of 9 months. The method of operation was close reduction with image intensifier (C-arm) technique operation was done in lateral Watson Jones approach. **Results:** The mean age of the patients was 65.5 years (range: 52-85). Of them, 21 were male and 15 were female, right sided injury was 23 in number and left sided was 13. Early complications were: non specific pain for 5 (13.8%) cases, stitch infection in 3 (8.4%), urinary tract infection in 2 (5.6%) cases, cutout of lag screw was found in 1 (2.8%) cases during follow up. Radiological improvement was observed in 32 (88.9%) patients in 24 weeks follow-up. The overall results were satisfactory in 26 (72.2%) cases and unsatisfactory in 10 (27.8%) cases.

Key word

Unstable trochanteric fracture, treated by DHS.

Introduction

The trochanteric region is defined as the area bordered proximally by the line of attachment of the hip joint capsule and distally by the inferior aspect of the lesser trochanter. The words intertrochanteric and pertrochanteric are usually used synonymously to depict features within this region. Due to number of unpropitious factors, trochanteric fractures pose a challenge to the orthopaedic surgeon-typically, an elderly patient who tolerates recumbency poorly, suffers an unstable fracture in osteoporotic bone, engaging the area of the skeleton with the highest load¹. Hip fractures are leading cause of death and disability among the elderly². Seventy-five percent of the intertrochanteric fractures are unstable³. The incidence of unstable trochanteric fractures increases with age because of increases of the average life expectancy; the fractures of the proximal part of femur have been marked as one of the biggest problems of the society, trochanteric fractures are around four times more frequent than the fractures of the proximal part of the femur. Women are three times more liable to these types of fractures than men due to their wider pelvis and because tend

to be a less active, developed osteoporosis earlier and tend to live longer than men^{4, 22}.

Treatment goals for this patient population include early rehabilitation, restoration of the anatomic alignment of the proximal part of femur and maintenance of the fracture reduction⁵. Fracture occurs through the highly vascular cancellous bone and usually heals within 8 to 12 weeks, regardless of the methods of treatment, in almost all cases. However, malunion and varus angulation are common. The demand on the patient, nursing staff and the length of hospitalization period render conservative method of treatment unacceptable today⁶.

In fractures involving the lesser trochanter, poor load transfer over the fracture surfaces with rigid implants, which remain subjected to high loads. Various types of osteotomies were proposed to achieve a primary stable fracture configuration⁷, and these procedures appeared to be beneficial in selected unstable fractures. However complications were reported related to the extended procedure, such as an increase in the rate of infection and impaired functional outcome.

There are several devices for internal fixation of trochanteric fractures, namely Dynamic Hip Screw, Smith-Petersen triflanged nail, Gamma interlocking nail, external fixation also use and sometimes arthroplasty, those who are suffering from severe degenerative changes of the femoral head either of osteoarthritis or rheumatoid arthritis may be consider for arthroplasty^{8, 21}.

Unstable fractures are those where there is poor contact between fracture fragments (displaced), comminuting, or a fracture pattern is such that weight bearing forces tend to displace the fracture further or in reverse oblique type. Unstable fracture usually can be treated by anatomical reduction with the use of collapsible fixation devices, such as hip compression screws, such collapsible internal fixation device permit the proximal fragment to collapse or settle as the fixation device seeking its own position of stability¹¹.

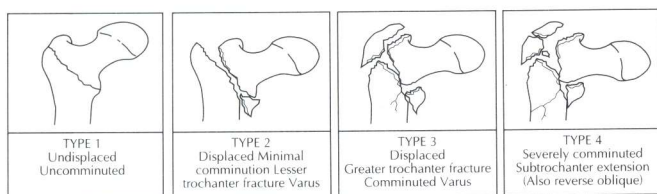
The Sliding Hip Screw is widely used for fixation of pertrochanteric fractures¹²⁻¹³. In the operative treatment dynamic internal fixation device specially DHS enables effective healing of the fracture with the minimal possibility of mechanical complication.

Patients and methods

The study design was at BSMMU, approved by our ethics committee. 36 patients with unstable trochanteric fracture were selected in this study. It was prospective, non randomized study, purposive sampling technique was followed as per inclusion and exclusion criteria. The inclusion criteria were age over 50 years, unstable trochanteric fracture of femur, injury was less than one month of old.

Exclusion criteria included basal neck fracture, subtrochanteric fracture, pathological fracture, open fracture, presence of

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Figure: Kyle classification of trochanteric fracture¹⁴.

infection, patient is unfit for anaesthesia and major surgical intervention.

Informed consents were taken from the patients or legal guardians after duly informing about the procedure of treatment, anticipated results, possible advantages, disadvantages and complication of all ethical issues.

Assessment of the patient were done after detail history, clinical examination (general, systemic and local) and relevant investigations were performed for every cases.

Investigations included a) **Blood:** Total count, Differential count, Haemoglobin %, ESR, Sugar (Random/Fasting), Urea, Creatinine, HbsAg b) **Urine:** Routine and Microscopic Examination c) X-ray pelvis-A/P view, X- Ray Chest P/A view d) ECG.

Pre operative planning: After clinical and radiological assessment preoperative check up were done then informed written consent were taken for operation.

Technique of operation: Under spinal anaesthesia and C-arm guide patient was positioned and close reduction was done then fracture site was explored and DHS and plate was fixed accordingly, with securing all haemostasis a drain was kept in situ then wound was closed accordingly.

Post operative follow-up: Early post operative time patients were treated with analgesic, antibiotic, sedative, drain was removed by, 24 to 72 hours, and then early mobilize with crutches when pain was subsided, stitch was removed by 10-13 days and discharge the patient with advice to come for follow-up.



X-ray no 1: Pre operative X-Ray



X-ray No. 2: 6 Weeks after operation

X-ray No. 4: 24 Weeks after operation



Figure: 24 weeks after operation

Patient was assessed clinically and radiologically every 6 weeks, 12 weeks and 24 weeks interval. Collected data were complied and appropriate analysis was done.

Final clinical outcome

The results in relation to functional ability were analyzed using the criteria followed by Kyle et al. (1979) is given below. At the end of follow-up, the results of the operation were rated into following four categories: Satisfactory (excellent+good), unsatisfactory (fair+poor).

Table-I: Shows, follow up criteria according to Kyle et al. (1979)

Excellent	Good	Fair	Poor
Normal range of motion	Normal range of motion	Limited range of motion	Pain on any motion
No or minimal limp	Noticeable limp	Noticeable limp	Wheel chair-bound or non ambulatory
No pain	Occasional mild pain	Moderate pain	
Rarely a cane is needed for walking	A cane is needed for walking	Two canes (crutches) or walker is needed for walking	

Results

Average age of the patients were 65.05 years with a minimum of 52 and maximum of 85 years. Out of 36 patients, 21 (58.3%) were male and 15 (41.7%) were female. Most of the subjects were either retired person (47.2%) or housewife (41.7%). Mostly the causes of injury were domestic fall (83.3%), only 16.7% suffered injuries from RTA. Right side was affected in 23 (63.9%) patients and the left side was affected in 13 (36.1%) patients. The average time from injury to operation was 15.4 days. The mean duration of operation was 61.5 minutes (range: 45-75 minutes).

The mean hospital stay of the patients was 21.5 days (range: 14 to 28 days). The average time from operation to discharge was 10.7 days. Mean period of follow-up was 9 months, range from 6 to 12 months. The early complications were: non specific pain for 5 (13.8%) cases, stitch infection in 3 (8.4%) cases, urinary tract infection in 2 (5.6%) cases and the late complication were cutout of the lag screw was found in 1(2.8%) cases during follow-up. Overall radiological improvement was observed in 32 (88.9%) patients in 24 weeks follow-up. The overall results were satisfactory in 26 (72.2%) cases and unsatisfactory in 10 (27.8%) cases.

Table-II shows follow up outcome regarding limping, walking ability and hip joint motion. Out of 36 (100%) patients, 16 (44.4%) patients had no limping and 2 (5.6%) became unable to bear weight at 24 weeks follow up. 14 (38.9%) patients regained previous walking ability. Hip movement was not possible in 1 (2.8%) patient at 24 weeks follow up. All parameters show gradual improvement.

Findings	6 weeks No. (%)	12 weeks No. (%)	24 weeks No. (%)
Limping			
None/minimum	3 (8.3)	16 (44.4)	16 (44.4)
Weight bearing not possible	25 (69.4)	6 (16.7)	2 (5.6)
Walking ability			
Regained previous walking ability	0 ..	8 (22.2)	14 (38.9)
Almost non ambulatory	3 (8.3)	0 ..	0 ..
Hip joint range of motion			
Full	2 (5.6)	20 (55.6)	26 (72.2)
Not possible due to pain	10 (27.8)	5 (13.9)	1 (2.8)

Table III: Shows the early and late complication of the patients. Statistically there is no significant difference between highest and lowest complication rates [complication in the patients (n=36)].

Complications	Number of Patients	Percentage
Early		
Non specific pain	5	13.9
Stitch infection	3	8.4
Urinary tract infection	2	5.6
Late		
Lag screw cut out	1	2.8

Table-IV. Clinical outcome of the study⁹

Clinical outcome	Male (n=21) No. (%)	Female (n=15) No. (%)	Total No. (%)
Excellent	5 (23.8)	4 (26.7)	9 (25)
Good	11 (52.4)	6 (40)	17 (47.2)
Fair	4 (19)	3 (20)	7 (19.4)
Poor	1 (4.8)	2 (13.3)	3 (8.4)

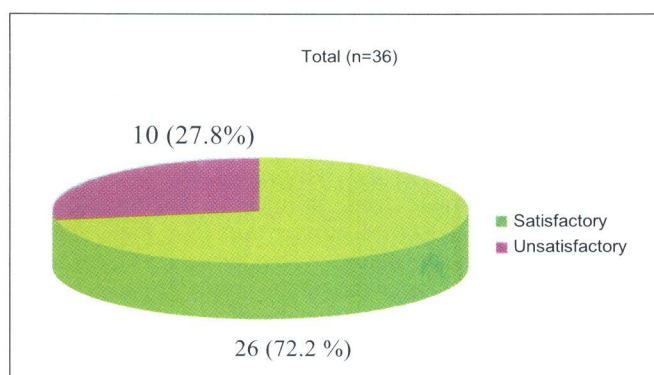


Fig. show final result of the study. Overall 72.2 percents obtained satisfactory result (excellent plus good) and 27.8 percent unsatisfactory (fair plus poor).

Discussion

These patients were evaluated with a mean follow-up of 9 months (range: 6 to 12 months) showed a satisfactory (good to excellent) result of 72.2 percent. This result is comparable with similar result of study¹³. They followed up 107 cases of intertrochanteric fractures fixed with Richards dynamic compression device until union of the fracture or failure of

fixation, and the clinical outcome was successful in 92.6 percent.

In the present series, the mean age of 36 patients is 65.05 years (range: 52-85 years). The mean age of the patients in this series is comparable to other series^{8,16,17}.

In the present series as in all other series, a difference is found in sex incidence, that is 21 (58.3%) patients are male and 15 (41.7%) are female.

This may be due to the fact that female elderly patients over 50 years are brought to the hospital for operative treatment less frequently than males. Besides, rural woman in our country are more active and chance of osteoporosis may be less. Probably this might be the cause of difference of sex incidence in the present series.

Thirty two (88.9%) patients of the present series are sedentary workers that are housewife, retired serviceholder, etc. and only 4 (11.1%) are serviceholders and they are male and relatively younger.

Out of 36 patients, 6 (16.7%) gave the history of road traffic accident (RTA), on the other hand 30 (83.3%) gave the history of fall at home or outside home. The incidence of RTA is more among males probably due to our social setup, male are busy outside the home and females are housewives, remain at home.

It is interesting to note that in 23 (63.9%) cases injury involves the right side and only in 13 (36.1%) cases involve the left side. Other study also reported same¹⁸.

Most (80%) of our population live in rural areas. Due to illiteracy, superstition, poor socioeconomic status and bad communication system, majority of the patients are treated late, ranging from several days to weeks. The patients in developed countries are treated within 48 to 72 hours¹⁶. But in the present series operations were performed average 15.6 days after injury.

The position of the lag screw within the femoral heads is an important factor in fixation of the trochanteric fracture by DHS. In this series, central position (2/2) was achieved in 30 (83.3%), central in anteroposterior and posterior in lateral roentgenogram (2/3) was next position (3 cases, 8.3%). One case (2.8%) also found in each 2/1, 3/3 and 1/3 position.

The mean duration of operation in the present study was 61.5 minutes (range: 45-90 minutes). It is also a little difference in comparison to other study. As for example, average 28 minutes, ranging from 15 to 90 minutes¹⁸ and 69 ± 32 minutes ranging from 20 to 240 minutes², although they did the operate under image intensifier control.

Physical therapy is essential for successful restoration of mobility. The goal of physical therapy is a return to previous activity and occupational levels. Moreover, early ambulation is essential to avoid morbidity and mortality related to these fractures in elderly patients. Most of the authors are in favor of partial weightbearing within three to five days after operation depending on the stability of fixation^{9,16,20}. In our hospital, operation was delayed (average 15.6 days). Although isometric exercises were started on the day of operation, average time to

walk for partial weightbearing with crutch supports was 4 to 6 weeks.

In the present series of 36 cases, excellent result is achieved in 9 (25%) patients, good result in 17 (47.2%) patients, fair result in 7 (19.4%) patients and poor result is in 3 (8.4%). Therefore, satisfactory (excellent plus good) result is 72.2 percent and unsatisfactory (fair plus poor) result is 27.8 percent.

In the present series, 26 (72.2) cases the result is satisfactory (excellent plus good), whereas 10 (27.8%) cases result is unsatisfactory (fair and poor) due to all the cases are unstable fracture and this group of patient gave early weightbearing and not come in time of post operative follow up. Heyse-Moore et al. (1983) also showed that 100 percent clinical success rate in cases of stable fracture fixed by DHS and 91.8 percent clinical success rate in case of unstable fracture but statistically this difference of results between stable and unstable fracture in their study was not significant. Although in this study the overall results show a good correlation with other series.

In the present series, only in 1 (2.8%) case, the lag screw cutout of the femoral head with varus angulations, it was due to early weightbearing. Satisfactory radiological healing in acceptable alignment occurs in the remaining 34 cases (94.7%) radiological healing or satisfactory clinical outcome is possible even after mechanical failure. As for example, 54 percent radiological failure but 23 percent clinical failure in their Jewett nail plate group of patients and 9.3 percent radiological failure but 7.4 percent clinical failure in their Richards dynamic hip screw group of patients in other study¹⁵. In some study shows 69 percent mechanical failure in fixation of intertrochanteric fracture with Jewett fixed angle nail plate and only 16 percent with DHS¹⁷. It is clear from these two studies that mechanical or radiological failure is much more common with Jewett fixed angle nail plate.

Overall radiological improvement was observed in 34 (94.4%) patients at 6 weeks and 12 weeks follow up, however at 24 weeks it declined to 32 (89.9%). Unsatisfactory result in terms of radiological assessment was in 2 (5.6%) at 6 and 12 weeks follow up and 4 (11.1%) cases at 24 weeks follow up.

There is significant difference between satisfactory and unsatisfactory groups in terms of radiological assessment at 24 weeks after operation. The cases of unsatisfactory radiological findings were due to advanced age, osteoporotic bone, unstable fracture, failure to attend the hospital in time for follow up, negligence of the attendants and early weight bearing to some extent.

Full range of painless hip movement is given the prime importance so far the grading of result is concerned. Painless full range of motion is very prerequisite for leading a normal life. This is why this parameter is taken as the main factor up on which the status of the final result depends. Out of 36 patients in the present series, 1 (2.8%) patients had pain of such severity that motion caused pain, it was due to lag screw cut out of the femoral head superiorly with varus angulation.

Three (8.4%) patients had just stitch infection causative organism is *Staphylococcus aureus* in all the cases and was sensitive to flucloxacillin, controlled within 5 days of all the cases after removal of stitches and antibiotic therapy, antibiotic was continued up to two weeks.

The infection rate was 2.1 and 0.8 percent deep infection rate reported in some study^{9,16}. In our series, the infection may be due to postoperative contamination with infected materials. Regarding systemic complication two (5.6%) patient developed urinary tract infection, the causative organism was *Escherichia coli*, cured by ciprofloxacin.

It is worthy to mention that no patient in this series developed thromboembolic complications, which are commonly reported in western literature¹⁶. One of the aims of operative treatment is to reduce the hospital stay and there by reduce the cost and burden on hospital and nursing staff. In the present series though the mean hospital stay is 21.5 days (range: 14 to 28 days), the average time to operation to discharge 10.7 days. So, the major part of delay is from admission to enter in to the operation room. Even the series is comparable to other series in this regard. Bannister et al. (1990) showed mean hospital stay 34.5 days, higher than this series. In some study showed days (range: 1 to 73 days), but their mean preoperative delay was 37.32 hours. In one hand our patients delayed to reach the hospital, on the other hand due to variety of reasons, like lack of operating room facility, we cannot perform the operation on our patient in time, within 48 to 72 hours¹⁶. Even then, the overall result is comparable to other series.

It is felt that closed reduction and internal fixation of unstable intertrochanteric fracture with Dynamic Hip Screw and barrel-plate assembly does not carry any excessive risk of morbidity and mortality, because early mobilization and rehabilitation have been facilitated by the use of the device. As our patients are late and already few days have been spent in bed, it is more important to mobilize the patients earlier by performing their operation with this sliding device.

Conclusion and recommendation

The treatment of trochanteric fracture of the femur by Dynamic Hip Screw greatly simplifies nursing care, allows early mobilization and reduces morbidity and mortality, specially in patient over 50 years of age. The most important point of consideration is the achievement of stable fixation of the unstable fracture, so that early walking with crutch support would be possible.

Considering all these points, internal fixation by Dynamic Hip Screw (DHS) has been proved to be the treatment of choice for trochanteric fractures of the femur, more importantly for the elderly people over 50.

This can be followed up later on to get a long-term result and the series can also be enlarged by adding more cases to determine more accurate result.

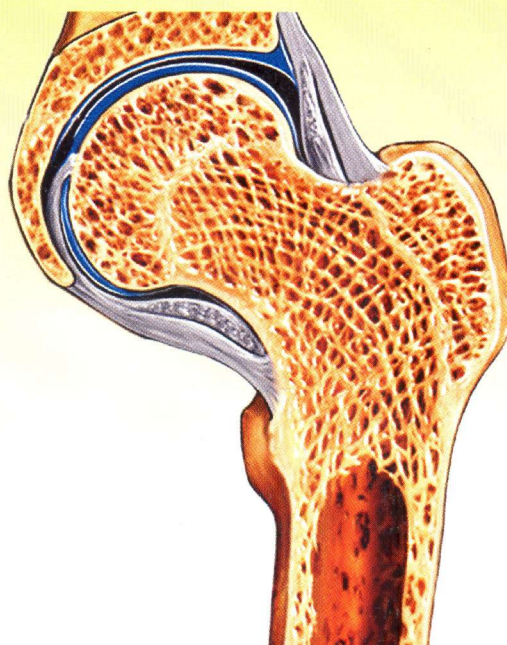
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Rate of caesarean operation and complications in hypertensive disorders of pregnancy

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Abstract

During the period of January 2005 to June 2005, 2365 patients were admitted in different maternity units of a hospital for delivery or pregnancy related complications. Among them 329 patients were documented to have various hypertensive disorders. The overall incidence rate is 13.9%. 63.5% of patients admitted in hospital with hypertensive disorder had normal vaginal delivery and 34.3% had caesarean delivery. Four (4) women (1.2%) required vacuum extraction and another 3 (0.9%) underwent forceps delivery. The rate of obstetrical intervention were highest in pre-eclampsia (PE) and eclampsia. 57 subjects (51.8%) with PE underwent caesarean section and 40 women (50%) with eclampsia underwent caesarean delivery. Out of the 110 patients with pre-eclampsia, 17 patients (15.4%) developed various type of complications in combinations or alone. Four (4) patients (3.6%) developed the features of pulmonary oedema and 3 patients had placental abruption and another 2 patients progressed to eclampsia. Out of the 80 patients who were admitted with eclampsia, 26 patients (32.5%) had developed various types of fatal and non-fatal complications alone or in combination during hospital treatment. Aspiration pneumonia and Pulmonary oedema tops the list and occurred in 10.0% and 8.8% of the patients respectively. Out of 329 pregnancies 09 women died. Overall fatality rate is 2.7%.

Introduction

Hypertension is the most common medical problem encountered in pregnancy and remains an important cause of maternal and fetal morbidity and mortality. It complicates up to 8-15% of pregnancies and accounts for approximately a quarter of all antenatal admissions¹⁻⁴. Pregnancies complicated by hypertension are associated with increased risk of adverse fetal, neonatal and maternal outcomes, including preterm birth, intrauterine growth restriction (IUGR), perinatal death, acute renal or hepatic failure, antepartum haemorrhage, postpartum haemorrhage and maternal death⁵⁻¹¹. The term "hypertensive disorders in pregnancy" encompasses two different but related conditions. Chronic hypertension predates the pregnancy or has onset before 20 weeks gestation⁵⁻⁷. Hypertension arising de novo in pregnancy from 20 weeks gestation ranges from hypertension alone (gestational hypertension) through proteinuria and multiorgan dysfunction (pre-eclampsia) to seizures (eclampsia). Some women with chronic hypertension develop superimposed pre-eclampsia. Overall pre-eclampsia complicates 5-6% of pregnancies and eclampsia complicates 1-2% of pre-eclamptic pregnancies in the UK⁷⁻¹⁰.

Materials and methods

This series include 2365 of women who were admitted in

different maternity units of Sir Salimullah Medical College and Mitford Hospital during the period of January 2005 to June 2005. During this 6 months period 2365 patients were admitted in the hospital for delivery or pregnancy related complications. Out of these patients, 329 subjects were documented to have hypertensive disorder. Patients both with and without antenatal care were included in the present series. Patients with history of convulsion were also included. But patients with primary renal disease like chronic renal disease were excluded from the study. After admission, re-evaluation was done by checking the blood pressure, oedema, presence or absence of protein in urine, foetal movement, fundal height, foetal size and volume of amniotic fluid. In all cases detailed history, thorough clinical examination and essential investigations were carried out. Clinically, the patients were classified in five major groups from pre-existing history and records and also from present clinical and biochemical parameters.

Hypertension was classified into five different categories according to history and systemic clinical examination. After admission, diagnosis was made mostly on the basis of history and clinical presentations with minimum laboratory aids. Hypertension was classified in to three different groups according to diastolic blood pressure (DBP) reading on admission. Hypertension was categorized as mild when diastolic blood pressure ranges from 90-100 mm of Hg, moderate if DBP ranges from 101-110 mm of Hg and as severe if DBP is > 110 mm of Hg.

Five different study group include Gestational hypertension, chronic hypertension, pre-eclampsia, eclampsia and chronic hypertension with superimposed pre-eclampsia. Hypertension occurring in the second half of pregnancy in a previously normotensive women without significant proteinuria or other features of pre-eclampsia, was categorized as Gestational hypertension. The diagnosis of chronic hypertension was based on a known history of hypertension pre-pregnancy or an elevated blood pressure >140/90 mm of Hg before 20 weeks of gestation. Pre-eclampsia was diagnosed when women with previous normal blood pressure showed a rise of pressure to 140/90 mm of Hg or more on at least two occasions, 06 hours apart, after 20 weeks of gestation along with associated proteinuria or oedema or both and at times coagulation profile and liver function test abnormalities. Pre-eclampsia was categorized as either mild or severe. Severe PE was defined as PE with either a blood pressure greater than 160/110 mm of Hg, or with severe biochemical and/ or haematological disturbances. Patients were categorized as severe PE/eclampsia based on the criterias set up by The American College of Obstetrics and Gynaecology. Severe PE was defined as a diastolic blood pressure of >110 mm of Hg, proteinuria value of > + 2 and symptoms of headache, epigastric pain, and blurred vision in a pregnant woman after gestational age of 20 weeks. PE superimposed on pre-existing hypertension was defined as PE occurring in a woman with preexisting (before 20 weeks of gestation) hypertension. The occurrence of generalized convulsion in a patient with PE (hypertension of >

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140/90 mm of Hg and proteinuria and / or oedema) not related to other causes was considered as eclampsia.

All the patients with eclampsia received magnesium sulphate intravenously to prevent or control convulsions. Magnesium sulphate was administered parenterally according to WHO protocol. Four (4) gm diluted in 12 ml of distilled water was administered intravenously over 20 minutes along with 3 gm intramuscularly in each buttock as loading dose followed by 2.5 gm 4 hourly intramuscularly in alternate buttock for 24 hours after last convulsion. Hydralazine was given intravenously to control hypertension whenever the diastolic blood pressure was 110 mm of Hg or higher. It was administered in 5-10 mg doses at 15 to 20 minute intervals until the diastolic blood pressure decreased to the desirable level of 90-100 mm of Hg and not lower. In 11 cases nifedipine 10 mg sublingually was used because of resistant hypertension. Ringer solution was administered intravenously at a rate of 60-120 ml/hr unless there was unusual fluid loss due to excessive blood loss and vomiting. Low rupture of membrane, Prostaglandin (PGE₂) gel and Oxytocin were used to induce or augment labour in all non-labouring cases unless there was a contraindication. No progression in dilatation and effacement within 6 hours of induction was considered as a failed induction and caesarean section was performed. The anesthesia of choice in our center was general for patients with eclampsia.

Major maternal morbidity and mortality included antepartum haemorrhage, severe post partum haemorrhage (PPH), eclampsia, acute renal failure, DIC (disseminated intravascular coagulation), HELLP syndrome (a syndrome consisting of haemolysis, elevated liver enzyme levels and low platelet count), acute hepatic failure, intracranial haemorrhage or maternal death.

Results

During the study period, a total of 2365 pregnant women were admitted in the maternity units of the hospital. Among these patients 329 patients (13.9%) were documented to have hypertensive disorder of pregnancy. Out of these 2365 patients 80 (3.4%) patients were admitted with eclampsia. As a group gestational hypertension was the major group and 117 patients (4.9%) were categorized as gestational hypertension. 110 patients (4.6%) were documented to have pre-eclampsia and 15 patients (0.7%) had chronic hypertension. 7 patients (0.3%) documented to have pre-eclampsia superimposed on chronic hypertension (Table-I).

Table-I. Incidence of various hypertensive disorders of pregnancy (n-2365)

Type of disorder	Number of Cases	Percentage
Gestational Hypertension	117	4.9
Pre-eclampsia	110	4.6
Eclampsia	80	3.4
Chronic Hypertension	15	0.7
Pre-eclampsia superimposed on chronic hypertension	7	0.3
Total	329	13.9

81 patients (3.4%) were documented to have mild PE and remaining 29 patients (1.2%) were categorized as severe PE. Out of the 329 patients with hypertensive disorders of pregnancy, 117 patients (35.6%) had gestational hypertension,

110 patients (33.4%) were admitted with pre-eclampsia, 80 patients (24.3%) had eclampsia, 15 subjects (4.5%) chronic hypertension and 7 women (2.1%) were noted to have pre-eclampsia superimposed on chronic hypertension (Table-II).

Table-II Distribution of the cases in different hypertensive group according to prevalence: (n-329)

Pattern of disease	Total number	Percentage
Gestational hypertension	117	35.6
Pre-eclampsia	110	33.4
Eclampsia	80	24.3
Chronic Hypertension	15	4.5
Pre-eclampsia superimposed on chronic hypertension	07	2.1
Total	329	100

63.5% of patients admitted in hospital with hypertensive disorder had normal vaginal delivery and 34.3% had caesarean delivery (Table-III).

Table-III Obstetrical intervention in patients with hypertensive disorder in pregnancy (all subgroups as a whole). (n-329)

Mode of delivery	Number of cases	Percentage
Normal vaginal delivery	209	63.5
Caesarean delivery	113	34.3
Vacuum extraction	04	1.2
Forceps delivery	03	0.9

Out of the 110 patients with pre-eclampsia, 17 patients (15.4%) developed various types of complications in combinations or alone. Four (4) patients (3.6%) developed the features of pulmonary oedema and 3 patients had placental abruption and another 2 patients progressed to eclampsia (Table-IV).

Table-IV Maternal outcome and complications in Pre-eclampsia and Eclampsia.

Variable	Pre-eclampsia Number (%)	Eclampsia Number (%)	p value
Cesarean delivery	57(51.8%)	40(50%)	>0.05
Blood transfusion	8 (7.5%)	42(52.5%)	<0.01
Acute renal failure	2 (1.8%)	6(7.5%)	<0.05
DIC	1(0.9)	2(2.5%)	>0.05
HELLP syndrome	1(0.9)	3(3.8)	>0.05
ARDS	0(0%)	3(3.8)	<0.0001
Placental abruption	3(2.7)	6(7.5)	<0.05
Postpartum hemorrhage	2(1.8)	5(6.3)	<0.05
Pulmonary oedema	4(3.6)	7(8.8)	<0.05
Aspiration pneumonia	1(0.9)	8(10.0)	<0.01
Neurological complications	1(0.9)	7(8.8)	<0.01
Maternal death	1(0.9)	7(8.8)	<0.0001

1 woman died of severe PE complicated with ARF, mortality rate 0.9%. One patient developed DIC and recovered completely. Out of 329 pregnancies 09 women died. Overall fatality rate is 2.7%. The maternal outcome in gestational hypertension and chronic hypertension appears excellent in

this study. The maternal outcome of eclampsia patient is still gloomy. Seven (7) patients (8.8%) died in this subset of study group (Table IV). Three (3) patients died of acute renal failure, two died due to CVA, one due to HELLP syndrome and another patient died due of DIC. Only one woman with severe PE with ARF died.

Discussion

Hypertensive disorders of pregnancy, mainly PE and eclampsia, are the leading cause of maternal and foetal morbidity and mortality. Incidence of hypertensive disorders of pregnancy in the developing countries and the highly industrialized world is similar but the incidence of the severe varieties are higher in the former^{7,8,17}. During the period of study in this series 2365 pregnant women were admitted in all the maternity units of Sir Salimullah Medical College and Mitford Hospital. Among them 329 women were documented to have hypertensive disorder. Overall incidence is 13.9%. This data is in agreement with other studies published in recent past in different peer reviewed journals. The incidence of hypertensive disorders in pregnancy varies from 8-15%¹²⁻¹⁵. In a recently published series out of 5,155 deliveries, 438 cases (8.49%) were documented and managed as hypertensive disorder of pregnancy¹⁶.

Gestational hypertension and pre-eclampsia constitutes major bulk of the patients in this series. 117 (4.9%) women were categorized as gestational hypertension and 110 (4.6%) subjects documented to have pre-eclampsia. 80 pregnant women were admitted or progressed to eclampsia in this series which is much higher compared to other published data. The incidence of eclampsia varies from 0.03 to 0.9% of deliveries, with significant maternal mortality, depending on the availability of high quality intensive care¹⁷. In a recently published series the incidence of eclampsia was 0.6% of the deliveries¹⁸. The incidence of eclampsia has decreased significantly in different developed countries due to tremendous improvement in antenatal and perinatal care. The data published in Singapore in the year 2006 reveals that the incidence of eclampsia is very rare in this country. A series published from KK Women's and Children's Hospital, Singapore showed that out of 61,595 deliveries between the period of July 1999 and June 2003 only 10 cases were documented to have eclampsia. Overall incidence is only 0.02% which reflects very high quality antenatal care in that country¹⁹. The incidence of eclampsia is still quite high in our country mainly in lower socioeconomic class. In the present series the incidence of eclampsia is high compared to developed countries. The reason for this higher incidence of established eclampsia in our country is the absence or inadequacy of proper antenatal checkup, specially among the mothers coming from a low socioeconomic background. Proper antenatal check up and public awareness may have positive impact in reducing the incidence of eclampsia and unfortunate maternal and perinatal morbidity and mortality in our country.

Out of 329 pregnant women with hypertensive disorders, 209 women had normal vaginal delivery (63.5%). Obstetrical intervention required in 36.5% of subjects. 113 women had caesarean operation. Overall incidence rate of caesarean section is 34.3%. Out of 110 subjects with pre-eclampsia 53 women (48.2%) had normal vaginal delivery and 57 cases (51.8%) underwent caesarean operation. In the eclampsia group 33 cases (41.3%) had vaginal delivery and 40 women

(50%) underwent caesarean section. In one series published by Lee W et al revealed very high caesarean section rate in patients with eclampsia, which is 79%²⁰. The rate of obstetrical interventions are very high in women with toxemia of pregnancy. Even in United States more than half of women with pre-eclampsia and eclampsia undergo caesarean delivery²¹.

Women with pre-eclampsia and eclampsia has a 3 to 25 fold increased risk of severe complications, such as abruptio placentae, thrombocytopenia, disseminated intravascular coagulation (DIC), pulmonary oedema, and aspiration pneumonia²¹⁻²⁴. Out of 110 patients with PE, 17 patients (15.4%) developed various types of complications in combinations or alone. Four (4) patients (3.6%) developed the features of pulmonary oedema and 3 patients had placental abruption and another 2 patients progressed to eclampsia. Only one patient developed DIC and recovered completely. One woman with complicated PE died due to ARF, mortality rate 0.9%. Out of the 80 patients admitted with eclampsia 26 women (32.5%) had various types of complications. 10.0% of eclamptic women developed aspiration pneumonia and 8.8% had placental abruption. Seven (7) women died from complications of eclampsia, overall fatality rate is 8.8%. Three patients died due to ARF, two died due to CVA, one due to HELLP syndrome and the remaining patient died of DIC. In a recently published series in 2006 maternal mortality rate was 9.4% in eclampsia²⁴. The complication rate of PE and eclampsia in our series are in agreement with results from other recently published data. In a recently randomized study the authors assessed the maternal complication rate. In that study abruptio placentae (8.4%), HELLP syndrome (8.4%), acute renal failure (3.9%), pulmonary oedema (1.3%), postpartum encephalopathy (1.3%) were the leading maternal complications²⁵. These complications were also the predominant causes of maternal morbidity and mortality in the current series.

In this study out of 329 women with hypertensive disorders of pregnancy 09 mothers died. Fatality rate is 2.7%. Cerebral haemorrhage, DIC, ARF and HELLP syndrome were the predominant causes of fatality. None of the women with gestational hypertension died in this study. This indicated that obstetric outcome of gestational hypertension is excellent in tertiary hospital. In our series maternal mortality in gestational hypertension was 0%, in PE 0.9% and in eclampsia 8.8%. This findings are almost consistent with the randomized studies published in recent past. In one randomized study maternal mortality in gestational hypertension, PE and eclampsia were 1.8%, 4.8% and 6.4% respectively²⁶.

Conclusion

Women with infants exposed to hypertension are more likely to suffer deaths or major morbidity than those without hypertension. Women with hypertensive disorders of pregnancy are more likely to have received medical or obstetric interventions such as induction of labour and caesarean section operations. Pregnancies complicated by pre-eclampsia and eclampsia may be associated with life-threatening complications for both the mother and infant. Women with little or no antenatal care or for whom skilled birth attendants are not available are at greatest risk of hypertensive disorder. Early detection and treatment will keep mild hypertensive disorder under well control and will reduce the incidence of severe pre-eclampsia and eclampsia. Proper

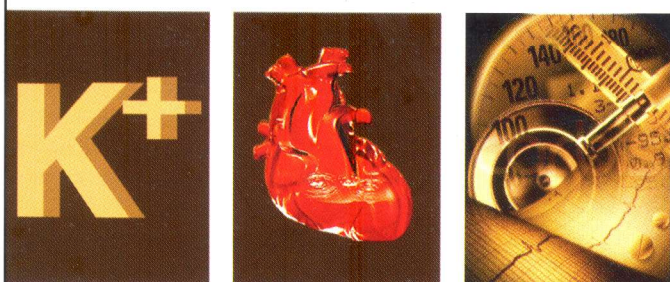
antenatal care and timely intervention can reduce morbidity and mortality significantly. The control of hypertension in pregnancy is thus part of general social development, education and family planning.

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Management of diabetes mellitus in surgery : A simple & safe protocol

Mustakim A¹

The ORION 2007; 27: 467-469

Abstract

Surgical stress stimulates counter regulatory hormone secretion, which decreases insulin sensitivity and inhibits insulin release. These changes favour catabolism, which can rapidly cause hyperglycaemia and ketosis in insulin deficient diabetic patients. Other potential hazards of surgery in diabetic patients include hypoglycaemia. Successful management of surgery in diabetic patients requires simple and safe protocols which are fully understood by all staff. A safe and practicable target range for blood glucose levels during the perioperative period is 6-11 mmol/l.

Introduction

Managing diabetes in people undergoing surgery is a common problem. Diabetic patients occupy 9% or more of general hospital beds, and several chronic complications- including peripheral vascular disease, foot problems, advanced vitreoretinal disease, terminal renal failure and severe oro-dental problems may require surgical intervention. Diabetic control is often suboptimal in patients undergoing routine surgery, unfortunately, responsibility for this is all too often delegated to the junior members of the surgical team and they are more likely to be familiar with modern diabetes management. The purpose of this article is to demystify this topic by providing simple, safe and effective guidelines for diabetic management that can be easily used on a busy surgical ward.

Hazards

Surgery in diabetic persons has associations with increased risk of per-operative complications compared to that in non-diabetic persons. This is due to involvement of their vital organs including the autonomic nervous system in the natural course of the disease.

The diabetic person undergoing surgery faces four (4) potential hazards in addition to the operation's usual risks in the non-diabetic population. These are-

1. Hyperglycaemia and ketosis : Due to the metabolic responses to the stress of surgery, especially in patients with inadequate insulin levels.
2. Hypoglycaemia : Due to perioperative fasting, sometimes exacerbated by the delayed effects of long-acting insulins or oral hypoglycaemic agents (e.g. chlorpropamide or glibenclamide) given preoperatively. This is a major hazard that must be strenuously avoided, as the anaesthetized or sedated patient may be unaware of hypoglycaemia or unable to communicate.
3. Perioperative complications : That are increased by diabetes, specially wound infections and myocardial infarction.
4. Iatrogenic problems of diabetic control : Usually due to

poor or neglected management protocols, inadequate glucose monitoring and failure to correct obvious abnormalities.

Some key points

- Poor metabolic control results in dangerous acute metabolic complications due to surgical stress.
- The infection if develops, tends to become virulent which further worsens the metabolic state, thus establishing a vicious cycle.
- In case of non-insulin treated patients, long-acting sulphonylureas should be replaced by shorter-acting agents some days before surgery, to reduce the risk of hypoglycaemia. Most well-controlled patients undergoing minor surgery only require close glycaemic monitoring during perioperative period. Those who are poorly controlled, or who are to undergo major surgery, should be managed as for insulin treated diabetes.
- In case of insulin treated patients, continuous administration of both insulin and glucose is required during surgery. The combined delivery of insulin with glucose decreases the metabolic disturbances of surgery and may improve the outcome. Insulin and glucose can be given either through separate infusion levels, or mixed together with potassium to prevent hypokalaemia (the glucose-potassium-insulin regimen, or GKI).
- Separate-line-regimen-glucose (10% solution) is infused at 100ml/h, and the insulin delivery rate (usually 2-4 u/h) is titrated to maintain blood glucose (measured hourly) in the range 6-11 mmol/L.
- GKI regimen - An infusion of 500ml of 10% dextrose containing 15u soluble insulin and 10mmol potassium chloride is given intravenously at 100ml/h. A new infusion bag containing an appropriate insulin dosage should be substituted if hyper- or hypoglycaemia develop.
- Hyperglycaemia leads to impaired wound healing, deficient formation of granulation tissue, with poor tensile strength of collagen. The fibroblast formation takes longer time than non-diabetics and there is a deficient capillary growth into the wound. The chemotactic, phagocytic and bactericidal activity of the neutrophil is deficient. There is impaired humoral host defense mechanism and abnormal function.
- The great danger is hypoglycaemia, because of risk of brain damage (neuroglycaemia).
- Normal plasma glucose level-
 - * Fasting blood sugar should be less than 6.4mmol/L.
 - * 2 hours after breakfast or meal should be less than 7.8mmol/L.
 - * 2 hours after taking 75g anhydrous glucose should be less than 11.1mmol/L.
 - * Random blood glucose should be less than 10mmol/L.

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Checklist for planning surgery in diabetic patient

- Arrange date of operation.
- Liaise between anesthetists, surgeons & the diabetes team.
- Optimize glycaemic control.
- Ancillary investigations - ECG, chest radiograph, renal

function & electrolytes.

- It should include assessment of any diabetic complication, or associated condition, which may increase surgical risk, e.g. cardiac autonomic neuropathy.

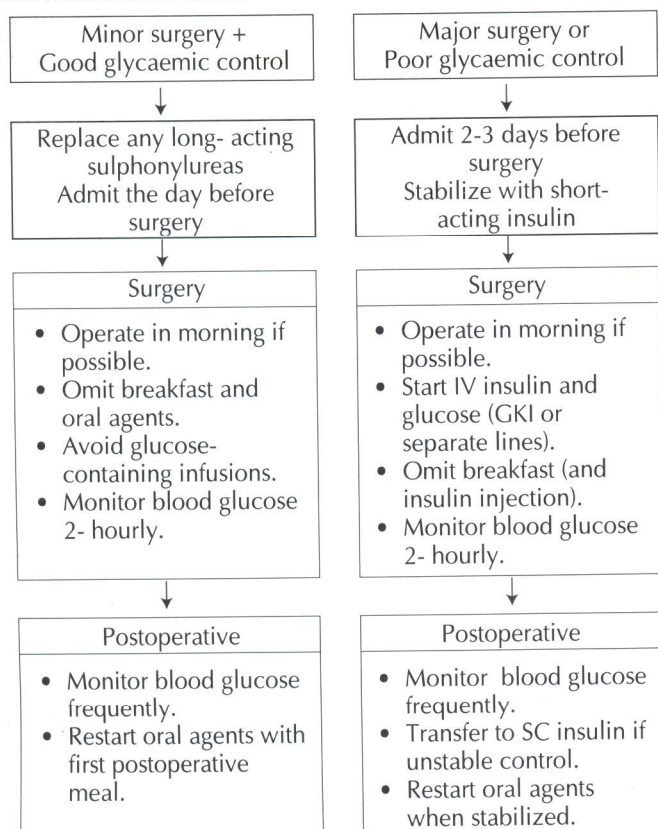
Factor need to be considered during planning surgery in diabetic individual

- Type of diabetes mellitus.
- Treatment- diet, oral antidiabetic drugs, insulin.
- Metabolic status.
- Vascular status- cardiac, renal, cerebral.
- Autonomic assessment.
- Surgery-
 - * Emergency or elective.
 - * Minor or major procedure.
 - * Type of anesthesia.
 - * Post- operative oral intake.

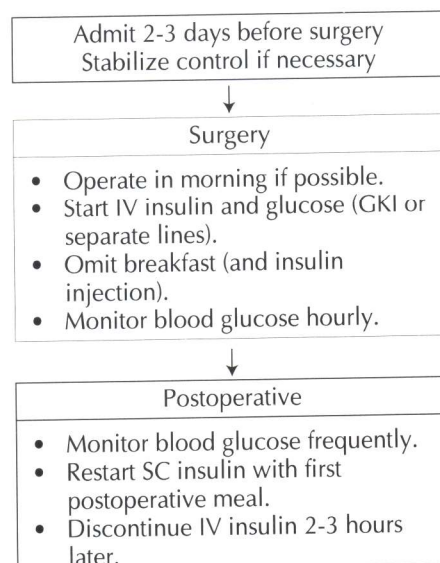
Principles of management

Management of the individual patient is determined by the severity and nature of the surgical trauma, the duration of the peri-operative fasting, the pre-existing diabetes treatment and the capacity of the patients insulin reserves. Type 1 diabetic patients effectively have no endogenous insulin and will therefore require exogenous insulin, and the same must be assumed for insulin treated subjects with type 2 diabetes. By contrast, subjects who are usually managed successfully without insulin can be considered to have at least some residual β -cell function. They need insulin treatment only for major surgery; otherwise, simple observation is generally sufficient. 'Safety and simplicity' are the watchwords for the surgical management of diabetic patients.

Protocols for managing surgery in diabetic patients who are not treated with insulin



Protocols for managing surgery in diabetic patients treated with insulin



A general protocols for managing patients with type 1 or type 2 diabetes mellitus undergoing surgery. These guidelines are suitable for use by junior hospital staff with limited specialist experience of diabetes:

1. Ensure satisfactory preoperative control. Operate in the morning if possible.
2. Liaise with the anesthetist.
3. The patient should omit breakfast, and insulin or oral antidiabetic drug, on the morning of surgery.
4. Non- insulin- treated diabetic patients, having non- major surgery, need observation only. 2 hourly glucose reagent strips on the day of surgery. Patients taking oral antidiabetic drugs can restart these with next meal.
5. 'GKI' is used in all other cases, i.e.:
 - (a) All insulin- treated diabetic patients; and
 - (b) Major surgery in non - insulin - treated diabetic patients-
 - (i) At 0800- 0900 on morning of surgery, start GKI infusion:

500 ml 10% dextrose + 15 U short- acting insulin + 10 mmol KCL	}	Infuse 5- hourly (100 ml/h)
--	---	--------------------------------
 - (ii) Check blood glucose 2 - hourly initially and aim for 6-11 mmol/L
If > 11 mmol/L, change to GKI with 20 U insulin
If > 6 mmol/L, change to GKI with 10 U insulin
Continue to adjust as necessary.
 - (iii) Continue GKI until patients eat, then revert to the usual treatment. If GKI is prolonged (> 24 h), check electrolytes daily for possible sodium or potassium abnormalities.

Special surgical situations (Emergency surgery)

- Hospitalize the patient.
- Diabetic patients who need urgent rather than elective surgery must be fully assessed clinically & biochemically, because the problem necessitating surgery may have led to metabolic decompensation, this should first be corrected if possible.
- Start normal saline drip with 12-16 units of soluble insulin

depending on the blood glucose levels, drip to be given at the rate of 4-6 units per hour.

- Check electrolytes, acid base & ketone levels.
- Try to avoid surgery till blood glucose goes below 20mmol/l & absence of ketonuria.
- If not possible, allow operation, with intensive management of diabetic state in conjunction with the surgical procedure.
- Patient may require normal saline- insulin drip till blood glucose levels drop to acceptable range.
- Serum electrolytes and acid base balance require close monitoring.
- Ensure adequate hydration.
- Further management as per general principles.

Conclusion

The therapeutic goals during surgery in diabetic patients are to

minimize fluid and electrolyte losses secondary to osmotic diuresis by limiting hyperglycaemia, to prevent diabetic ketosis in type 1 patients, and to avoid hypoglycaemia while patients are anesthetized. The aim should be to have optimal control of diabetes in all diabetics undergoing surgery. It is important to emphasize that with optimal care, surgery in a diabetic is as safe as in a person without diabetes.

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Klippel-Trenaunay Syndrome : A case report

Rashid AKMM¹, Begum F², Ashrafuzzaman M³, Alam MS⁴

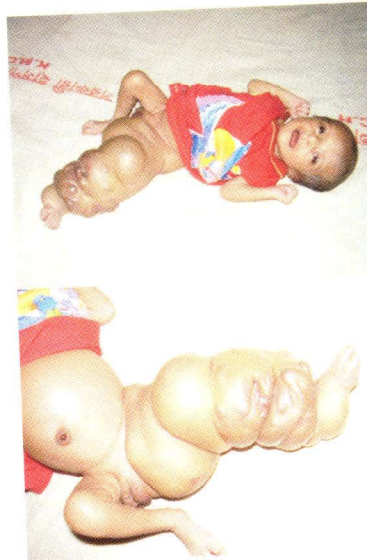
The ORION 2007; 27: 470-471

Introduction

Klippel-Trenaunay Syndrome (KTS) is an eponym denoting a slow-flow, capillary-lymphatic-venous malformation in association with soft tissue and/or skeletal overgrowth¹. The syndrome was described first in 1990 and characterized by the classical triad of capillary malformation, venous varicosities and limb hypertrophy². KTS affects the lower extremity in 95% of patients, the upper extremity in 5% of patients and least commonly the trunk³. Superficial varicosities result from incomplete valves and deep venous anomalies. Various form of lymphatic anomalies including lymphedema and macro cysts are present in 50% of affected individuals¹. Limb overgrowth is obvious at birth and hypertrophy may worsen during childhood. In contrast, Parkes Weber Syndrome (PWS) is defined as a fast-flow lesion consisting of an arterio-venous capillary and venous malformation with hypertrophy^{1,4,5}. Pain, limb swelling and cellulitis may occur. Thrombophlebitis, dislocation of joints, gangrene of the affected extremity, congestive heart failure, hematuria secondary to urinary tract hemangioma, rectal bleeding from lesions of the gastrointestinal tract, pulmonary lesion and malformation of the lymphatic vessels are infrequent complications⁶. Supportive care includes compression bandage for varicosities; surgical treatment may help carefully selected patients. Leg-length differences should be treated with orthotic devices to prevent the development of spinal deformities, corrective bone surgery may be needed to treat significant leg-length discrepancy⁶. We encountered one patient of such rare nonheritable disorder in a local clinic and later on to Medical College Hospital for further management. We felt interested to publish as a case report as it was a rare disorder.

Case

A new born baby was born with swelling of the left lower limb. Baby was delivered by cesarean section and had breach presentation. He was 35 wks of gestational age and cried immediately after birth. No history of consanguinity was present and similar disease in the family. Mother was not suffering from any other disease during pregnancy. Swelling was gradually increasing in size. After two days of birth the baby was ill looking with temperature of 102°F. There was no other organomegaly. Local examination was done and found whole left lower limb swollen. Skin was more shiny than that of the right. No scar or sinus was present. Consistency of the swelling was soft and nontender. No local temperature was raised.



Picture showing hemihypertrophy of the left lower limb



X-ray of the left lower limb showing uniform soft tissue swelling

There was hyperpigmented lesion on the later aspect of the left limb. Length of the left limb was more than the right. Left limb was 25 cm and right 22 cm. Left lower limb circumference was 22 cm but right 9 cm. Varicosity of vein was observed in the left. Movement was restricted on the same side. The baby had no other congenital anomaly. X-ray of the left leg was done and found soft tissue swelling of the entire limb without bony hypertrophy.

Discussion

The risk of KTS in the general population is 1 in 14480. In that respect we encountered this case suddenly in our private practice. No history of consanguinity or family incidence is observed like other studies⁷. KTS affects the lower extremity in 95% patients, the upper extremity in 5% of patients and least commonly the trunk³. Lower extremity is involved in our case which is similar for the other reports. In our patient bony involvement is absent. Limb hypertrophy in KTS or PWS is secondary to the vascular anomaly located on the affected limb. The lymphatic malformation associated with KTS is known to cause localized soft tissue and skeletal hypertrophy¹. Some authors consider KTS to be a risk factor for Wilms tumor^{8,9}. Other do not consider KTS and Wilms tumor to be significantly associated¹⁰. Our case has no such association with Wilms tumor because this case is detected early when it has not developed the tumor. Patients with isolated hemihypertrophy have an increased risk of developing other cancer (5.9%)¹¹. Intelligence is usually not impaired in KTS. However, when there are hemangioma on the face (facial hemangiomatosis), there may also be hemangiomas in the brain which can cause seizures (convulsion) or mental retardation, such problems are rare in KTS¹. Our patient gets no time to evaluate the intelligence status because the baby is very young to comment as well as died at the age of 6 days. The cause of death is probably septicemia and hypovolemia.

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Conclusion

It could be mentioned that we found interest to report this case as it was a rare disorder. Although, it was rare, it might be encountered in our practicing life. Immediate meticulous conservative and surgical measures could be of benefit and increased life expectancy of the patient.

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Resection of pineal region epidermoid in semisitting position : A case report

Alam S¹, Khair A²

The ORION 2007; 27: 472-474

Abstract

Objective: A case of pineal region mass with triventricular hydrocephalus (HCP) managed by endoscopy and microsurgery is presented. **Clinical presentation:** A 25 yrs old women presented with headache, visual blurring and occasional vomiting. Her CT scan and MRI revealed a pineal region mass which was seemed to be a glioma. **Intervention:** Initially triventricular HCP was managed by endoscopic third ventriculostomy (ETV). Her headache, vomiting was relieved following ETV. Definitive surgery was done after few weeks of ETV in the form of Midline Suboccipital Craniectomy in semisitting position. Total tumour was removed and histopathology revealed an epidermoid. **Conclusion:** Although epidermoid is not uncommon in the pineal region, the successful total removal by proper selection of approach is crucial for avoidance of complication and recurrence free survival.

Introduction

Pineal region tumour makes up 0.4 to 1.0 percent of brain tumours in adult and 3-8 percent of brain tumours in children. While germinoma and astrocytoma accounts for 53 to 78 percent of pineal region tumours, a wide variety of histologically distant tumour types can be found in this region. Pineal region comprises pineal gland itself, tectal plate, quadrigeminal cistern and pulvinar of thalamus.

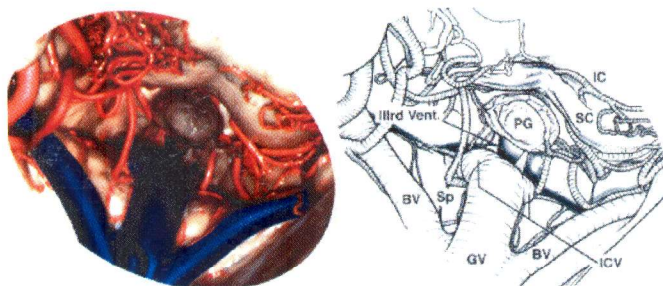


Figure 1: Shows pineal region

Lesions in pineal region compromise the superior colliculus, either through direct compression or through tumor invasion, results in a syndrome of vertical gaze palsy that can be associated with pupillary or oculomotor nerve paresis. This Parinaud syndrome has become virtually pathognomonic for lesions involving the pineal region.

Further compression of the Sylvian aqueduct and periaqueductal gray region causes hydrocephalus, mydriasis, convergence spasm, pupillary inequality and nystagmus.

Impairment of downgaze becomes more pronounced with

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tumors involving the ventral midbrain.

Torkildsen in 1948 argued for abandoning aggressive surgical resection and was in favour of cerebrospinal fluid (CSF) diversion followed by empiric radiotherapy. This became the standard of treatment until 1980s.

New Surgical approaches to the pineal region has been developed.

1. Supratentorial approaches include-
 - A. Parietal-interhemispheric approach described by Dandy (1936).
 - B. Occipital - transtentorial approach originally described by Horrax, later modified by Poppen.
2. Infratentorial-
 - A. Supracerebellar infratentorial approach of Krause and modified by Stein.
3. Combined (supratentorial & infratentorial approach).

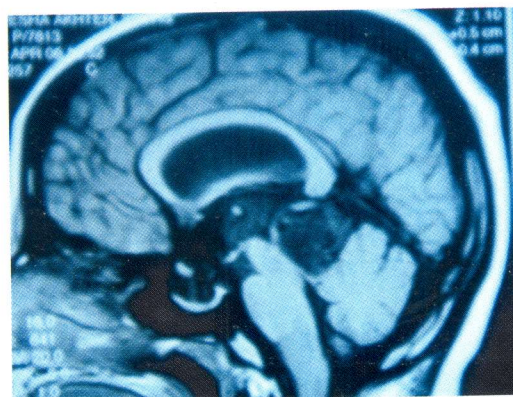


Figure 2: Sagittal MRI revealed hypointense mass in T1WI with obstruction of aqueduct of Sylvius

The algorithm of CSF diversion, radiation and observation sometimes is successful; however, patients with benign lesion may be exposed to unnecessary and ineffective radiation.

Here, we report a case of pineal region epidermoid which was successfully treated with microsurgery in semisitting position.

Case report

A 25 yrs old woman presented with a history of chronic headache, visual blurring and occasional vomiting for 3 months. There was no history of diplopia, ataxia and 6th nerve palsy. Neurological examination revealed normal except 2nd nerve, which showed moderate papilloedema bilaterally.

Initially CT scan was done and revealed a hypodense mass in the pineal region with triventriculomegaly.

MRI scan was done to see the details of the lesion, which was in favour of epidermoid of pineal region. It appeared

hypointense in T1WI and hyperintense in T2WI. Triventricular hydrocephalus and periventricular edema were also noted.

Tumour markers (alpha feto proten and HCG) were examined from blood, which revealed normal.

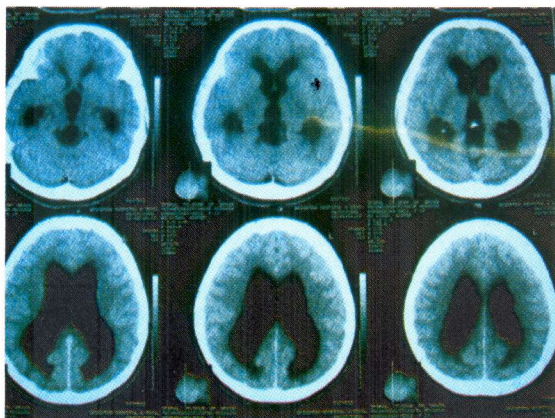


Figure 3: Axial CT scan revealed hypodense mass with obstructive hydrocephalus

The patient underwent endoscopic 3rd ventriculostomy as a part of hydrocephalus management. Following 3rd ventriculostomy her headache, visual blurring reduced.

Subsequently she was managed by supracerebellar infratentorial approach in semisitting position to remove the pineal epidermoid. It was done successfully with microscopic total removal. Peroperative the tumour appeared pearly white in colour, soft, capsulated, suckable tumour which laid below the vein of Galen and Rosenthal vein.

After surgery patient developed pseudomeningocele in the suboccipital area which was managed by continuous lumbar drain for 5 days. Following lumbar drain her pseudomeningocele was disappeared. Before discharge she had no headache, no visual blurring, no vomiting, no ataxia and diplopia.



Figure 4: Semisitting position-patient head was fixed with 4 pin head fixator

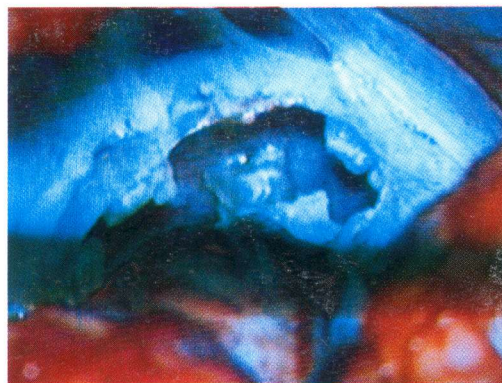


Figure 5: Pearly white tumour seen in pineal region removing microscopically



Figure 6: Appearance following complete removal

Discussion

The preoperative radiological diagnosis of this lesion includes arachnoid cyst, germinoma, teratoma. However tumour markers were not in favour of germinoma, seminoma or teratoma. MRI scan well evaluated the lesion and concluded that it was an epidermoid. Now the controversy is whether to shunt the patient or endoscopic third ventriculostomy as because it was associated with moderate to severe hydrocephalus due to blockage of aqueduct of Sylvius. Particularly for benign and radiosensitive tumour and if MRI suggest that obstruction of CSF pathway can be corrected by surgically- endoscopic third ventriculostomy and definitive surgery should be performed. In case of malignant tumours such as germinoma-Ventriculo-Peritoneal shunt has been implicated as a conduit for tumour cell allowing peritoneal seeding in to abdominal cavity.

Planning for the surgical resection of pineal region tumour is based on tumour location as visualized on midsagittal and coronal MR image. If the majority of the tumour located above the tentorium occipital transtentorial approach is pursued. If majority of the tumour located below the tentorium a supracerebellar infratentorial approach is favoured. Semisitting position is favoured for supracerebellar infratentorial approach.

Conclusion

We have presented the pineal region epidermoid with hydrocephalus. To the best of our knowledge it was first case which managed by endoscopic 3rd ventriculostomy and supracerebellar infratentorial approach in semisitting position in our country. We reviewed the literature on the reported cases of pineal region epidermoid with hydrocephalus.

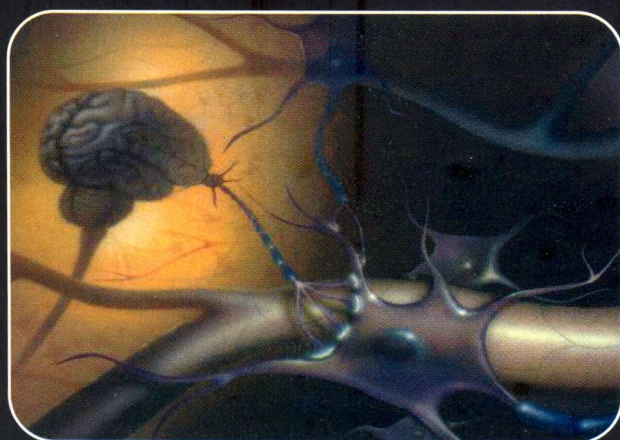


Figure 7: Postoperative midline scar Figure 8: Frontal scar for 3rd ventriculostomy

We recommend endoscopic 3rd ventriculostomy instead of VP shunt for the management of HCP and microscopic total removal of epidermoid in proper position either by supracerebellar infratentorial or occipital transtentorial approach for decompression of Sylvian aqueduct as well as avoidance of delayed recurrence of tumour in this critical zone.

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Transferring latest vascular intervention technology to NICVD from USA hospitals : PFP initiative

Alam SAN¹

The ORION 2007; 27: 475

To the Editor,

I would like to share an exciting experience of Borgess, Oaklawn and Sturgis hospitals, USA with latest development in vascular surgery. By this time we all know about the renowned charitable organization of USA, "the Physician for Peace (PFP)". During their short but strong presence in 2004 and 2005, we at NICVD were blessed with a dedicated and high-tech cardiovascular team headed by renowned vascular surgeon from Michigan, Dr. M. Abedur Rahman, rendering service for the suffering humanity and transferring technology. In continuation of the teaching program, exchange of cardiovascular specialists from Bangladesh was proposed by them. As a result, I was selected to be the first fellow of the PFP to visit the concerned hospitals for higher training in vascular surgery under a mini fellowship program of 2 months. As proposed by the PFP, the fellowship was arranged in Kalamazoo, Michigan under Dr. M. Abedur Rahman.

Dr. Abedur Rahman is attached with at least 3 hospitals, all with centers of excellence in vascular patient care. As PFP proposed with a long term established affiliation between teaching institutions like NICVD in Bangladesh and that of USA, the medico-legal limitations were almost absent for fellow candidate. I was really lucky in this regard, that from the very beginning of the fellowship, I was allowed to scrub and assist my preceptor in all types of surgery in addition to routine and emergency patient care. Among those 3 hospitals, Borgess is the largest one where most of the major vascular interventions and surgeries are performed. It is to be mentioned here that Borgess Health is a member of the "Ascension Health", the largest nonprofit healthcare system and largest catholic health system in the USA. Borgess hospital officially opened its doors on 1889 as a 20 bed hospital. Now it is a 424 bed regional tertiary medical center with state of the art neuro, cardiac, vascular, orthopedic and obstetric care facilities spread over a 60 acre campus. It is not only a hospital, but also one of the prime educational centers in the region. This teaching institute has an excellent modern library with 4000 latest textbooks and 200 current peer-reviewed journals covering all fields of medical science. Part of the library is shared by visitors of patients, where different illustrated booklets on different diseases, procedures, outcomes and perioperative care are kept for reading and distribution. This form of self counseling cum motivation has minimized the load of individual counseling from the physicians as a whole.

During the period of fellowship, I participated in consulting 833 outdoor patients with all types of degenerative/metabolic vascular pathologies and took part in surgical interventions on 102 patients. Out patient service is comprehensive, where consultation, noninvasive vascular evaluations and some of the invasive procedures like wound care, application of UNO boots, sclerotherapy for minor varices, radiofrequency ablation (RFA) of varicose veins, ultrasound guided thrombin injection

for pseudoaneurysms etc. are done under the same roof. It is worth mentioning that endovascular procedures have advanced at a tremendous pace and it is the better option with acceptable result in more than 50% of patients with ischaemic limbs. Moreover, I had the opportunity to participate in couple of endografting for abdominal aortic aneurysm, remote endarterectomy using Moll Ring Cutter, Advanced atherectomy of distal tibial arteries and different types of endovascular procedures with or without stenting in the concerned hospitals. This fellowship training was more interactive and practical based where the concerned fellow learnt the latest technique in vascular surgery. Remote endarterectomy and advanced atherectomy has reshaped the treatment of occlusive disease with the interventional tools built to preserve native vessels. With availability of tools, these two procedures could be started in Bangladesh. These two procedures at the stage of further improvement of devices and techniques are going to replace other endovascular procedures like ballooning and stenting in future. Among other remarkable procedures, thrombolysis using tPA, filter placement in IVC for the prevention of Pulmonary Embolism, redo carotid endarterectomy, in-situ bypass are really exciting techniques with excellent outcomes.

The renewed knowledge of latest techniques in vascular surgery and comprehensive patient care has injected enthusiasm and courage for helping to implement at least some of those in our daily practice. Accordingly, we are trying to establish a well organized and technically updated vascular health care facility at NICVD and render maximum service to the suffering humanity.

Information for Authors

The followings are the minimum requirements for manuscripts submitted for publication -

The MANUSCRIPT should be prepared according to the modified Vancouver style as proposed by the International Committee of Medical Journal Editors (ICMJE). The entire uniform requirements document was revised in 1997 which is available in the Journal of American Medical Association (JAMA. 1997; 277:927-934) and is also available at the JAMA website. Sections were updated in May 1999 and May 2000. A major revision is scheduled for 2001. The following section is based mostly on May 2000 update.

THREE COPIES of the manuscript should be sent in a heavy paper envelope. Manuscripts must accompany a covering letter signed by all authors. This must include (i) information on prior or duplicate publication or submission elsewhere of any part of the work as defined earlier in this document (ii) a statement of financial or other relationships that might lead to a conflict of interest (iii) a statement that the manuscript has been read and approved by all the authors, that the requirements for authorship have been met and (iv) the name, address, and telephone number of the corresponding author, who is responsible for communicating with the other authors about revisions and final approval of the proofs. The letter should give any additional information that may be helpful to the editor.

A 1.44 MB 3.5 inch good quality FLOPPY DISK or CD must accompany the printed copies of the manuscript containing an electronic copy of the manuscript prepared in Microsoft Word 6.0 or later version.

For further information please visit our official website www.orion-group.net/journals for "Information for authors" or see previous Volume of "The ORION" Medical journal.

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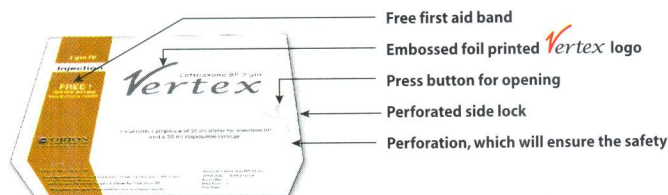
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MSD NEWS

Scientific Seminar

ICH & Shishu Shasthya Foundation Hospital, Dhaka

On 25th March 2007 a Scientific Seminar on "Multi Drug Resistant Typhoid Fever" was arranged by the doctors of ICH & Shishu Shasthya Foundation Hospital, Dhaka. Dr. Md. Fazlul Haque, Associate Professor of Paediatric Medicine chaired the meeting. Associate Professor Dr. A S M Selim was also present. About 50 doctors attended the meeting.



Stall Display

Bangladesh Orthopedic Society Congress

A stall was displayed in the "Annual Scientific Congress of Bangladesh Orthopedic Society-BOSCON" which was held on 5th and 6th March, 2007 at LGED Bhavan, Agargao, Dhaka. About 500 doctors attended the session of "BOSCON" and visited the stall & the doctors were very much pleased to visit the stall.



MSD NEWS

Medical Services Department (MSD) of ORION Laboratories Limited successfully arranged significant number of Round Table Meeting, Scientific Seminar, Internee Doctors Reception Programs etc. in different venues of all over Bangladesh during December 2006 to April 2007.

Round Table Meeting

Dhaka

Dhaka Community Hospital, Dhaka

On 16th January, 2007 a round table meeting on "Stress management" was arranged by Dhaka Community Hospital, Dhaka. Dr. Manoj Kanti Barua, Chief Medical Officer chaired the meeting and Dr. Capt (Rt) Md. Shahjahan, Director of the hospital was the chief guest. Dr. A.K.M. Wahiduzzaman, consultant Lifestyle Clinic was the key note speaker. About 50 doctors attended the meeting.



Oral & Maxillofacial Surgery Dept. BSMMU

A round table meeting on "Effect of Pre-Emptive Ketorolac & Bupivacaine in Maxillofacial Surgery" was held on 5th April 2007 at China Kitchen restaurant, Hatirpul, Dhaka. Professor Dr. Motiur Rahman Molla, dept. of Oral & Maxillofacial Surgery, BSMMU chaired the meeting & Dr. Shohda Khatun, Consultants, dept. of Oral & Maxillofacial Surgery, BSMMU was the key note speaker. About 70 doctors attended the meeting.

Medicine unit-II & III, BSMMU

Doctors of Medicine unit- II & III jointly arranged a round table meeting on "Role of ceftriaxone to treat various infections" at China Kitchen restaurant, Hatirpul, Dhaka on 4th April 2007. About 50 doctors of Medicine unit-II & III of BSMMU attended the meeting.

Medicine Ward-22, DMCH

A round table meeting was arranged by the doctors of Medicine Ward-22, DMCH on 11th March 2007 on "Role of ceftriaxone to treat various infections". Dr. A K M Aminul Haque, Associate Professor of Medicine, Ward-22 was the chairperson. About 35 doctors enjoyed the session.

Surgery unit-III, Ward-6, DMCH

Doctors of Surgery unit-III, Ward-6, DMCH arranged a round table meeting on, "Role of ceftriaxone to treat various infections" at China Kitchen restaurant, Hatirpul, Dhaka on 27th January 2007. Professor Omar Ali, Surgery unit-III, Ward-6, DMCH chaired the meeting. About 45 doctors attended the session.



Endocrine Surgery unit, BSMMU, Dhaka

A round table meeting on "Role of ceftriaxone to treat infections" was arranged by the doctors of Endocrine Surgery, BSMMU on 25th March 2007. Dr. Touhidul Islam, Assistant Professor of Endocrine Surgery, BSMMU chaired the meeting and Dr. Saiful Islam Bulbul, Assistant Registrar, Endocrine surgery, BSMMU was the key note speaker. About 30 doctors attended the meeting.

Surgery unit-II, BSMMU, Dhaka

Doctors of Surgery unit-II, BSMMU arranged a round table meeting on "Role of ceftriaxone to treat various infections" on 22nd March 2007. Dr. Rana, Assistant Registrar of Surgery unit-II was the key note speaker. About 10 doctors attended the meeting.

Gynae unit-III, SSMCH, Dhaka

Doctors of Gynae unit-III, SSMCH arranged a round table meeting on "UTI in Pregnancy" on 3rd April 2007 at Gynae seminar room. Dr. Fatema Begum, Associate Professor of Gynae unit-III was the chairperson. About 50 doctors attended the meeting.

Sylhet

VARD Eye Hospital, Sunamganj

On 18th December 2006 VARD Eye Hospital, Sunamganj arranged a round table meeting on "Role of multivitamin and multimineral in different age group" at Skyview Restaurant, Sunamganj. Dr. A.K.M. Mohsin Alam, Surgeon- Eye, chaired the session. About 15 doctors attended the meeting.



Sylhet Mohanagar Hospital, Sylhet.

Sylhet Mohanagar Hospital arranged a round table meeting on "Role of Ceftriaxone in treating various infections" at Heritage Restaurant, Sylhet on 24th of December 2006. Dr. Ashraf Ahmed, SMO chaired the session. About 15 doctors attended the meeting.

Mynensingh

Paediatric dept. MMCH

A round table meeting on "Death Review" was arranged by the doctors of Paediatric dept, MMCH on 12th March 2007 at Paediatric seminar room. Dr. Azizul Haque, Associate Professor, Paediatric dept, MMCH was the chairperson. Dr. Masud, Dr. Monirul & Dr. Liza was the key note speaker. About 40 doctors attended the meeting.



Khulna

General Hospital, Khulna

General hospital khulna arranged a round table meeting on "Role of ceftriaxone in various infections" at Hotel Western Inn, Khulna on 24th December 2006. Dr. A.K.M. Abdus Samad Mia, Civil Surgeon-Khulna was the Chairperson and Dr. Maksud Begum, DCS was the Chief Guest. Dr. Abdul Kader, Consultant- Orthopedics was present as chief guest, Dr. Proshanta Kumar Biswas, Consultant- Surgery presented the note. About 47 doctors attended the meeting.



OPD, Khulna Medical College Hospital

A round table meeting on "Nutritional supplement in different age group" was arranged by OPD doctors of, KMCH on 23rd December 2006 at Hotel Castle Salam, Khulna. Dr. Md. Shafiquzzaman Siddiqui, Resident Physician, KMCH was the Chairperson and Dr. Moinuddin Mollah, RMO was present as Chief Guest. About 33 doctors attended the session.



Rajshahi

Tanor THC, Rajshahi

A round table meeting was arranged by the doctors of Tanor THC, Rajshahi on 21st March 2007 on "Role of ceftriaxone in treating various infections". Dr. Md. Mofizul Islam, THA, Tanor THC chaired the meeting. About 36 doctors attended the session.



Internee Doctors Reception Program

Faridpur Medical College Hospital, Faridpur

A successful internee reception program of Faridpur Medical College held on 18th January, 2007 at Nuclear Medicine Centre Auditorium, FMCH. The program was sponsored by Orion Laboratories Ltd. Dr. Md. Aftab Uddin, Superintendent FMCH was present as Chairperson while Dr. Md. Enamul Karim, Principal-FMC was the chief guest. President of BMA-Faridpur Dr. Mostafizur Rahman Shamim was present as Special Guest. About 130 doctors enjoyed the raffle-draw and prizes of the program.



Chittagong Medical College Hospital, Chittagong

Orion Laboratories Ltd arranged a grand gala intern reception program of CMCH at Dr. Samiuddin Auditorium, BMA Bhaban, Chittagong on 24th December 2006. Dr. Nur Har Begum, Deputy Director, CMCH was present as Chairperson while Dr. Ghulam Murtaza Harun, President BMA-Chittagong was the Chief Guest. Scientific Secretary of BMA-Chittagong Dr. Omar Faruque Yusuf and Dr. A.K.M. Fazlul Hoque, Treasurer, BMA-Chittagong was the special guests. About 150 doctors enjoyed the raffle draw and prizes of the program.



Shahid Ziaur Rahman Medical College Hospital, Bogra

An intern doctor's reception program of Shahid Ziaur Rahman Medical College Hospital, Bogra was held on 15th March 2007 at North Way Motel, Bogra. Orion Laboratories Ltd. arranged the program successfully. Dr. Md. Amirul Hossain Chowdhury, Dr. Gazi Saiful Alam Chowdhury and Dr. F.M.A. Md. Musa Chowdhury Registrar of Shahid Ziaur Rahman Medical College Hospital were present on the occasion. About 140 intern doctors enjoyed the program.



Blood groups 'can be converted'

Scientists have developed a way of converting one blood group into another. The technique potentially enables blood from groups A, B and AB to be converted into group O negative, which can be safely transplanted into any patient. The method, which makes use of newly discovered enzymes, may help relieve shortages of blood for transfusions. Using incompatible blood during a transfusion can put a patient's life in danger. The blood cells of people with group A and B blood contain one of two different antigens - which can trigger an immune system response. People with AB blood have both types of antigens, while those with group O blood have neither.

People produce antibodies against the antigens they lack. This means groups A, B and AB can only be given to patients with compatible blood, while O - as long as it is rhesus negative - can be given to anyone. The new technique works by using bacterial enzymes to cut sugar molecules from the surface of red blood cells. After a search of 2,500 fungi and bacteria the researchers discovered two bacteria - *Elizabethkingia meningosepticum* and *Bacterioides fragilis* - which contained potentially useful enzymes. They found that enzymes from both bacteria were able to remove both A and B antigens from red blood cells.



However, they say that patient trials will be needed before the conversion method can be used in hospitals. Writing in the same journal, blood experts Geoff Daniels, of the Bristol Institute for Transfusion Sciences, and Stephen Withers, of the University of British Columbia, Canada, welcome the research. They said the use of enzymes to convert blood group has long been proposed, but has proved to be impractical due to the inefficiency and incompatibility of available enzymes. However, they say the enzymes discovered in the latest study may finally overcome these problems. However, the new process cannot do anything about another antigen known as rhesus positive that can trigger an immune response. This means that only rhesus negative blood can be used to create the new type of group O supplies.

bbc.com/Health

Spinal disc transplant 'success'

Doctors in China have carried out the world's first spinal disc transplants on five patients, a study says. The discs were placed in the necks of four men and a woman by a University of Hong Kong-led team. They were taken, with the consent of relatives, from the spines of three young female donors who had died suddenly as a result of trauma. Five years on, the patients are doing well, with improved mobility and no immune problems, says the Lancet. The surgeons said refinements of the procedure may provide an alternative to standard therapies. But they said it would be hard to replicate the technique for spinal discs in the more complex area of the lower back - the most common source of problems.

Removing damaged discs and fusing adjacent vertebrae together is regarded as the "gold standard" treatment. However, it results in limited movement and may accelerate degeneration elsewhere. Artificial discs have shown success, but may produce serious complications in the neck region. Vertebral discs are the spine's shock absorbers. The flat capsules, about an inch in diameter and a quarter-of-an-inch thick, fit tightly between the bones of the spinal column. Under stress, a disc's inner material may swell, pushing through the tough outer membrane onto surrounding nerves and causing pain, which can be excruciating. In severe cases, a ruptured or torn membrane may result in irreversible damage.



Transplantation has never been successfully carried out on humans until now. The discs were removed from the donors within two hours of death and frozen in preservative chemicals before being transferred to the patients. Professor Keith Luk, who led the team, said: "With further improvements in the areas of graft preservation and surgical techniques, disc transplantation could be indicated in degenerative disc disease." But he said to extend the technique to the lower spine, which is more complex, would be a "challenge".

They added: "Disc transplantation could be an attractive alternative both for fusion and artificial disc replacement. This new approach could be of particular interest for younger patients for whom prevention of adjacent-level degeneration is important."

CNN.com/Health

Office workers 'risk blood clots'

Workers who spend excessive amounts of time at their desk could be putting their lives at risk, research suggests. The Medical Research Institute in New Zealand found they may have a higher risk of developing potentially fatal blood clots. The researchers found a third of patients admitted to hospital with deep vein thrombosis (DVT) were office workers who spent hours at a computer. The study will be published in the New Zealand Medical Journal. DVT is the formation of a blood clot in a deep vein, most commonly in the legs. The clots can travel to the heart, lungs or brain, causing chest pain, breathlessness or possible death from a heart attack or stroke. The condition has been dubbed "economy class syndrome" because passengers sitting on long-haul flights without space to stretch out were considered as most at risk. The New Zealand team examined a sample of 62 people admitted to hospital with blood clots, and found 34% had been sitting at their desk for long periods. In comparison, 21% had recently traveled on a long-distance flight. However, the researchers accepted that many more people sit at their desk for long periods, than travel on long-haul flights. Lead researcher Professor Richard Beasley said some office workers who developed clots sat at their screens for 14 hours a day. He said: "Some of them were going three to four hours at a time without getting up".



Professor Beasley said the problem was most common in the information technology industry and in call-centres. He said people were working longer hours than ever before, and often not taking a proper lunch break, preferring instead to eat a sandwich at their desk while attending to emails. "People who work in offices are not actually getting up and walking around like they used to", he said. "New technology has made it easier for them to do this. I think it is causing people physical trouble because they are not taking exercise, but also psychological trouble because they are not interacting with their colleagues or teambuilding in a face-to-face way".

New Zealand Medical Journal

Stressful event kills brain cells

A single episode of severe stress can be enough to kill off new nerve cells in the brain, research suggests. Rosalind Franklin University researchers believe their finding may give new insights into the development of depression. Working on rats, they found that cells were lost in the hippocampus, an area of the brain which processes learning, memory and emotion. The study features in the Journal of Neuroscience. The researchers found that in young rats, the stress of encountering aggressive, older rats did not stop the generation of new nerve cells in the hippocampus. However, it did prevent the cells from surviving-leaving fewer new neurons for processing feelings and emotions. The hippocampus is one of two regions of the brain that continues to develop new nerve cells throughout life, in both rats and humans.

The researchers believe the loss of cells could be one cause of depression. However, their work also raises hope of possible treatments to stop acute stress from contributing to mood problems. They found that cells tended to die not immediately following a stressful situation, but after a delay of 24 hours or more. In principle, they argue it could eventually be possible to administer treatment during this time to prevent cells being lost. The researchers put each young rat in a cage with two older rats for 20 minutes. The older rats quickly pinned down, and in many cases, bit the intruder. The young rats had stress hormone levels six times as high as those who were not caged with older animals.

However, microscopic analysis of brain tissue showed that their ability to generate new cells in the hippocampus remained undimmed. This seemed to disprove a previous theory that stress hormones put a brake on the generation of new cells. A week after the encounter, however, only a third of the new cells had survived. Long-term survival of nerve cells was also compromised. In another part of their study, the researchers marked newborn cells in the hippocampus, and subjected rats to stress a week later. At the end of the month they counted a third fewer fully developed nerve cells. Lead researcher Dr Daniel Peterson said the next step was to understand how stress reduced cell survival.



Professor David Kendall, from the University of Nottingham, said previous research had shown that longer-term, unpredictable mild stress could depress nerve cell generation in the hippocampus. That study suggested the key seemed to be a reduction in production of a hormone that helps keep brain cells alive. However, Professor Kendall said there was also evidence to suggest that mild stress could be protective. "The rule of thumb seems to be; a little stress is good for you but severe/unpredictable stress is bad."

bbc.com/Health

Hand washing: A simple way to prevent infection

Hand washing is a simple habit that can help keep you healthy. Learn about the benefits of good hand hygiene, as well as when to wash your hands and how to clean them properly. Hand washing is a simple habit that requires minimal training and no special equipment. Yet it's one of the best ways to avoid getting sick. This simple habit requires only soap and warm water or an alcohol-based hand sanitizer which is a cleanser that doesn't require water. Do you know the benefits of good hand hygiene and when and how to wash your hands properly?

Despite the proven health benefits of hand washing, many people don't practice this habit, even after using the bathroom. Throughout the day you accumulate germs on your hands from a variety of sources, such as direct contact with people, contaminated surfaces, foods, even animals and animal waste. If you don't wash your hands frequently enough, you can infect yourself with these germs by touching your eyes, nose or mouth. And you can spread these germs to others by touching them or by touching surfaces that they also touch, such as doorknobs.



Infectious diseases commonly spread through hand-to-hand contact include the common cold, flu and several gastrointestinal disorders, such as infectious diarrhea. While most people will get over a cold, the flu is much more serious. Some people with the flu, particularly older adults and people with chronic medical problems, can develop pneumonia. The combination of the flu and pneumonia, in fact, is the seventh leading cause of death.

Inadequate hand hygiene also contributes to food-related illnesses, such as salmonella and E. coli infection. According to the Centers for Disease Control and Prevention, as many as 76 million Americans contract a food-borne illness each year. Of these, about 5,000 die as a result of their illness. Others experience the annoying symptoms of nausea, vomiting and diarrhea.

MayoClinic.com

'Too many doctors don't know what to do'

Women with diabetes should get specialist care when planning to have a baby and after conceiving. But experts say that all too often services are poor and care uncoordinated. The guidelines to the National Health Services are clear, but Lata Ramoutar, who was diagnosed with type 1 diabetes nearly 20 years ago, says she has had to battle for what she is entitled to. "I have researched about my condition myself, I know what I should be doing, and how to look after myself," she said. "I don't think this is the case for everyone and, with the uncoordinated services as they are, this could be putting mothers and babies at risk." Ms Ramoutar, 37 and from London, says the standards of care are not consistent enough. "There are always exceptions, and I have met some wonderful doctors and nurses, but all too often I get the impression they do not understand the issues women with diabetes face." Throughout pregnancy, women with diabetes need to take extra doses of folic acid, and have regular scans to make sure their babies are not growing too quickly, or developing heart and spine defects - some of the common risks in such cases. "All too often I would find myself explaining to staff why I needed folic acid or the regular scans," Ms Ramoutar said. "It makes you wonder if things will even get picked up when they are going wrong. There was even one occasion where a locum GP refused to give me the folic acid."



Ms Ramoutar, who is now pregnant with her second child, was also disappointed with the care she received before she was pregnant. Women with diabetes are supposed to get advice on how to control their blood sugar levels and what to eat to keep their diabetes in check. But Ms Ramoutar was disappointed when she went to her local hospital before she started trying for a baby. "I went once and did not go back, they did not make me feel welcome at all. They focused on the bleak picture, just talking about the risks, rather than on how to approach it positively, so I decided to do it on my own."

bbc.com/health

Postnatal sex pain 'may persist'

Nearly one in three UK women still experience painful sex a year after giving birth, research has suggested. The study of 482 women who attended maternity units in Birmingham found more than half had at least one sex-related problem. Birmingham's Perinatal Institute found birth-related health problems were most likely in Asian women. The Journal of Clinical Nursing study found women resumed a sex life on average eight weeks after giving birth.

Some waited just a week, while others waited for a long as a year. The average for women who had assisted deliveries, using forceps or other devices, was 10 weeks. The study, which quizzed women at least a year after they gave birth, found 87% reported at least one health problem. Problems were most common among Asian women, older women and those who had larger babies and longer deliveries. Painful intercourse was reported by 19% of women who had a Caesarean, 34% who had a normal birth and 36% of who had an instrument-assisted birth. Sex-related health problems were highest among instrument-assisted births (77%) and lowest among Caesarean births (51%).

Two-thirds of women having normal births reported at least one problem related to sex. Forceps deliveries were associated with higher levels of stress, urge, and continual incontinence. Having an epidural did not lead to an overall increase in health problems. Asian women were more than two times more likely to report pain (62%) than white women (35%). They were also more likely to report continual urinary incontinence. Midwife Amanda Williams, who worked on the study, said: "We believe that our study points to the need for health professionals to provide ongoing support for women who have given birth." She said this should focus on issues such as problems with the perineal area, between the vagina and the anus, and other sensitive health issues. She added: "This, coupled with greater public awareness of these issues, will hopefully make it easier for women to get help for both short-term and long-term health problems." Dr Maggie Blott, a consultant obstetrician at London's King's College Hospital, said: "Post-natal care is something we do incredibly badly in this country. "Care is quite good up to about 12 days post delivery and essentially that is that." Dr Blott said women were supposed to get a thorough check six weeks after delivery, but often this was simply about contraception. She said: "We need to raise awareness, so that women realise it is not normal to have long-term problems, and seek help." She said it was important that GPs took a proactive role in spotting women with potential problems, and ensuring they were given proper care and support. She also called for obstetricians to set up clinics to provide the specialist care that these women need.



The Journal of Clinical Nursing

Hot baths cut chance of fatherhood

Men seeking to become a father should avoid soaking in hot baths, according to a study on male fertility. A three-year pilot project involving 11 men found that there was some truth in the old wives' tale about hot baths being bad for a man's prospects of conceiving. The men were exposed to "wet heat" in the form of a hot tub, Jacuzzi or bath, at least once a week for 30 minutes or more for three months. Scientists studied sperm quantity and quality after the bathing stopped and found that five of the 11 men experienced a significant increase in fertility. After three to six months of staying out of the bath, the men's average active sperm count increased almost fivefold. Motility, a measure of sperm's ability to swim, rose by a third by the end of the study. Researchers suspect smoking may have been a factor in the six men who did not experience an increase in sperm count or motility.



"It has been believed for decades that wet heat exposure is bad for fertility, but this has rarely been documented," said Dr Paul Turek, from the University of California at San Francisco, who led the study published in the journal of the Brazilian Society of Urology. "These activities can be comfortably added to that list of lifestyle recommendations as men attempt to conceive", he said.

Journal of Brazilian Society of Urology

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Zinc..

..a crucial element for human body

Introduction

Zinc is a co-factor for at least 70 critical enzyme pathways. Deficiency can therefore result in diverse, profound problems; impaired synthesis of DNA, RNA, and protein underlie the clinical manifestations. Zinc deficiency may be more common than is diagnosed.

The RDA for zinc is 5 mg/day for infants, 10 mg for children and 15 mg for adults. Zinc requirements increase in pregnant women to 20 mg/day.

Zinc deficiency

Any child with growth retardation, poor hair growth, impaired immunity or skin problems should be considered for zinc deficiency, particularly if there are gastrointestinal absorption problems. Zinc absorption is impaired by phytates in cereal grains, and by the concurrent ingestion of other minerals, especially calcium, iron, cadmium and copper. The best body zinc evaluation is the measurement of zinc concentrations in white blood cells. Hair zinc levels may be increased when zinc is markedly deficient.



Zinc deficiency produces

Impaired senses of taste and smell, slow wound healing, white spots in the fingernails, night blindness (interacts with Vitamin A deficiency), low sperm count, hair loss, behavior or sleep problems; mental lethargy, impaired immune function, cyclic feeding and loss of appetite, dermatitis.

Zinc is depleted by the following drugs

Penicillamine, steroids, ethanol, diuretics, and oral contraceptives. Zinc is often promoted to "enhance immunity". It is an essential mineral for immune function. Perhaps because of its immune promoting role, deficiencies in zinc may be helpful in autoimmune diseases. Zinc concentrations are referred to copper, and the minerals tend to have a reciprocal relationship. A low tissue concentration of copper may result from zinc supplements. A suggested optimal zinc to copper ratio is 8:1. Copper intake of 2-3 mg / day is usually suggested for adults. Copper is actively transported through the intestinal wall, carried in a special protein, ceruloplasmin, in the blood, and stored in the liver. Vitamin C and zinc in excess interfere with copper availability. Copper deficiency results anemia, that may be indistinguishable from iron deficiency. Copper plays a role in iron absorption and mobilization. Copper deficiency impairs the formation

of connective tissue proteins, collagen and elastin. Weak bone (osteoporosis) and defective arterial walls are the more obvious manifestations.

In animals, copper deficiency may result in dramatic death from rupture of a major blood vessel or the heart itself. It is not clear that these events in human pathology are related to copper deficiency, but suggests that copper intake should be carefully evaluated in patients with cardiovascular disease. Copper deficiency also contributes to increased blood cholesterol.

Deficiency also results in growth disturbances of the brain. Infants with blocked copper utilization develop severe brain dysfunction due to defective myelination of nerve fibers (Menke's disease).

Irving et al¹ reported a case of severe sideroblastic anemia and neutropenia in a 19-year-old woman who was fed by gastrojejunal tube and received supplemental vitamin E, vitamin C, riboflavin and zinc (50 mg twice daily). Her hemoglobin level dropped to 49 g/L with associated severe neutropenia. The peripheral blood film revealed macrocytic anemia. Her zinc intake was estimated at 120 mg per day over a five year period. Zinc toxicity was confirmed by elevated serum zinc, low serum copper and low serum ceruloplasmin levels.

Irving stated

"Copper deficiency secondary to zinc excess arises from an indirect interaction between the 2 metals in the intestine. When exposed to excess dietary zinc, the absorptive duodenal cells upregulate metallothionein, an intracellular metal-binding ligand. Metallothionein binds both zinc and copper ions but has a much greater affinity for copper. Dietary copper that is bound to metallothionein becomes sequestered within the duodenal enterocytes, which are sloughed into the intestinal lumen. Increased oral copper intake is ineffective in restoring the zinc-copper balance in the presence of excess dietary zinc, as the induced metallothionein continues to intercept the copper and reduce its absorption."

Conversely, copper accumulates in the brains of children with Wilson's disease and produces mental retardation. Copper may be supplied in drinking water from leaching of copper water pipes, especially if the drinking water is acidic. Copper supplementation levels are best calculated when the copper content of the water supply is known, since copper excess may be as damaging as copper deficiency. It is clear that supplementation of zinc and vitamin C should not be attempted without an awareness of copper requirements. Zinc supplements in the range of 5-15 mg per day may be desirable. Check the copper content of your water before taking a copper supplement. If water copper is low or absent then add 1 mg copper per day.

References

1. Julie A. Irving, Andre Mattman, Gillian Lockitch, Kevin Farrell and Louis D. Wadsworth. A case of reversible cytopenias associated with excessive zinc supplementation. CMAJ. July 22, 2003; 169 (2).

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