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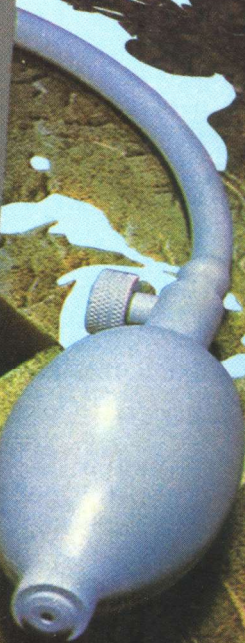
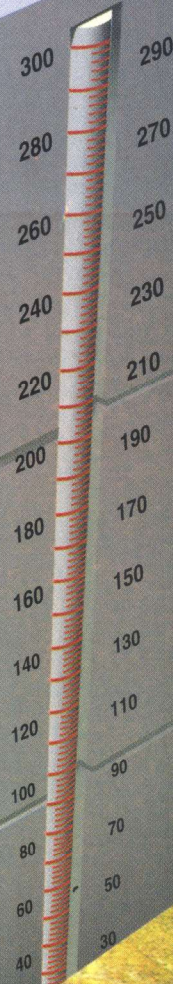
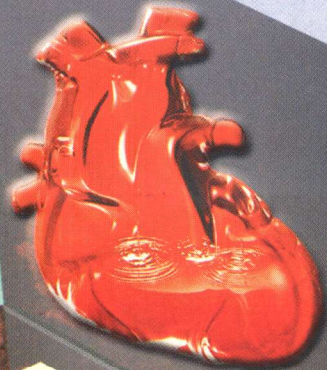
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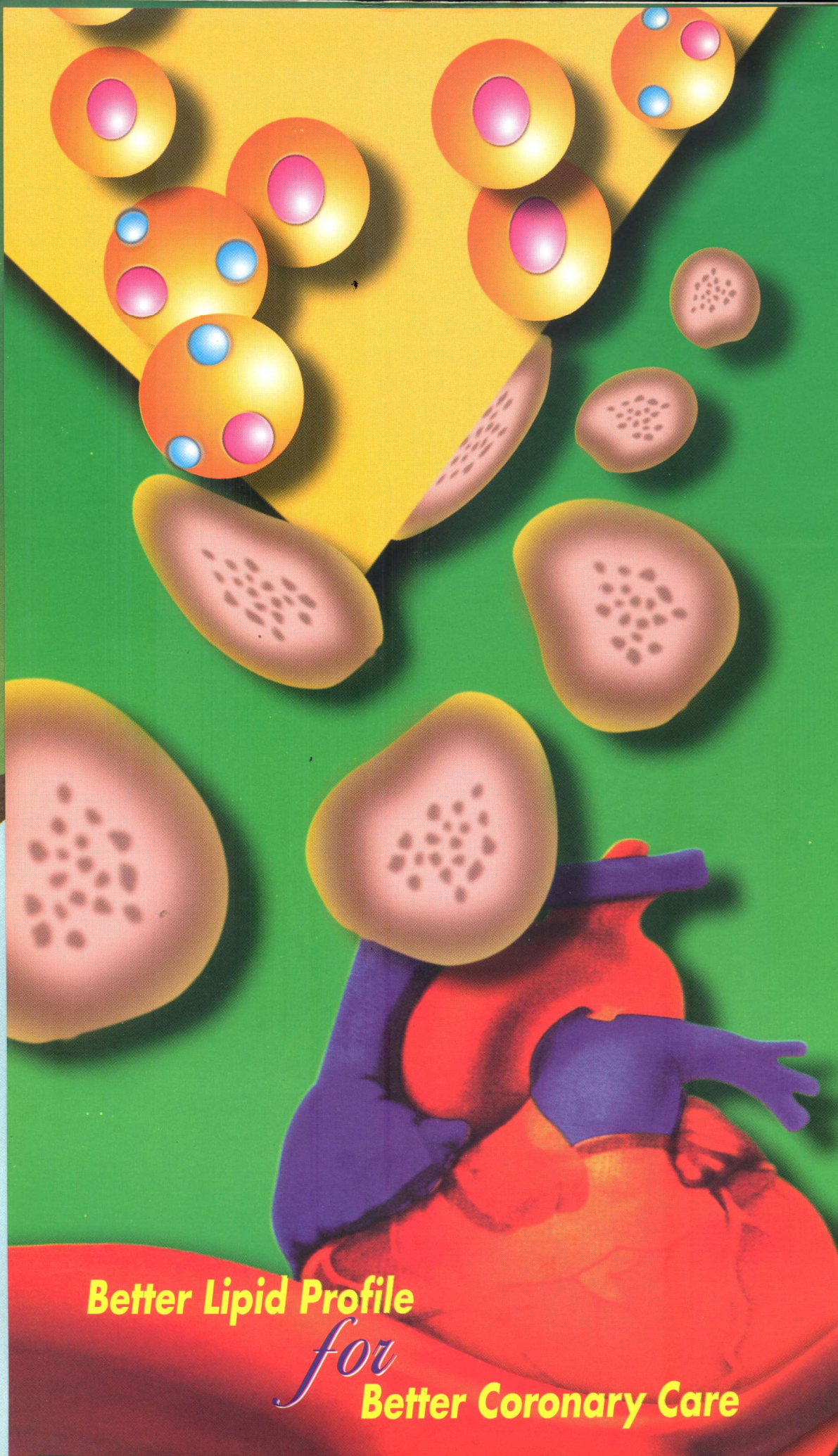
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The scenario which has turned itself into reality through our readers' suggestions for active participation of the "The ORION" management in Continued Medical Education (CME) with ardor and appreciation is the source of our encouragement and pleasure. To give generous support to CME and enhancement in standardization of the journal some changes has been made on the cover page according to the views of the members of The Advisory, Review and Editorial Board. It was decided in the co-ordination meeting which was held recently with the hope of more acceptance and confidence from doctors' community home and abroad.

In this 13th volume, September, 2002 we have highlighted orthopedic surgery, laparoscopic surgery, nuclear medicine, and plastic surgery.

With fast changing modern civilization demands of quality services in orthopedics and traumatology are increasing enormously. When there is no appropriate answer to these problems, Ilizarov method (pioneered by Gavril Abramovich Ilizarov in Kurgan, Russia) comes to solve these. That is why the Ilizarov method is called as revolution of orthopedics. With help of this method even a crushed limb could be saved without amputation and has successfully applied this method to correct a wide variety of orthopedic problems. Measures are to be taken to reach the spirit of Ilizarov procedure all over Bangladesh.

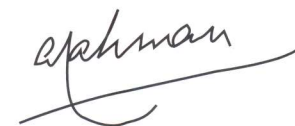
Cholecystectomy is mainstay in gall stone diseases. Laparoscopic cholecystectomy is the gold standard for removing gall stones. Several studies worldwide have confirmed the advantages of laparoscopic cholecystectomy in comparison to open surgery. Because of better results and low complication rates it is the treatment of choice and this should be promoted among surgeons.

Recently nuclear medicine has contributed significantly in the management of thyroid diseases using radionuclide therapy. The goal of radioiodine therapy in treating hyperthyroidism is to reinstate euthyroid state in a minimum period using single dose specially in complicated diseases such as cardiac disease or diabetes or high risk for surgery. This therapy should be encouraged by the concerned medical experts.

For hundreds of years men tried to augment the breast by implanting different materials to treat psychological trauma from hypoplastic or removed breast. Because of various complications none of them could stand the test of time. Presently silicone breast implant has been accepted by surgeons the only reliable material for use in augmentation mammoplasty. Numerous scientific studies have shown that silicone breast implant do not cause cancer; pregnancy, breast feeding, and nipple sensation are not hampered. This technique is widely used in developed countries. More than 200,000 women have undergone this surgery last year in the USA alone. Unfortunately we have lagged far behind in this field, because of lack of insight, ignorance, false belief, and availability of trained surgeons. Advantage of this gift of science deserved to be encouraged among concerned professionals.

We would always value views and suggestions of readers to enrich our publication.

May The Almighty bless you in the spirit of good health.



Dr. ATM Azizur Rahman
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ILIZAROV- The Revolution of Orthopedics: A Prospective Study in Hospital and Clinic

M. Amjad Hossain¹, Md. Hasan Masud², Amir Hossain³, Faisal Eskander⁴

Summery

A prospective study was done on 51 patients, who were treated at National Institute of Traumatology and Orthopaedic Rehabilitation (NITOR) and in private clinics from May1999 to May2002. Among them 41(80%) patients were treated for non-union, 3(6%) patients were treated for mal-union and 7(14%) were treated for deformed limbs. They were all treated with Ilizarov external fixator.

Introduction

Why we called the *Ilizarov* method - The revolution of orthopedics? Because when there is no appropriate



Fracture on lower leg due to RTA and managed by Ilizarov Method

answer to the problem of orthopedics and traumatology, Ilizarov method comes to solve the problem. For example when a patient comes to the orthopedic surgeon with non-union of a fracture after being treated with plating, intramedullary nailing, monolateral external fixators or other methods, Ilizarov can lead the surgeon to the destination, i.e. union of the fracture. Previously a crushed limb could not be saved and amputation was the only solution. But now with the Ilizarov we can save the limb and to make the patient hope full. Multiple deformities are amenable to correction by Ilizarov, which an orthopedic surgeon could not think in past.

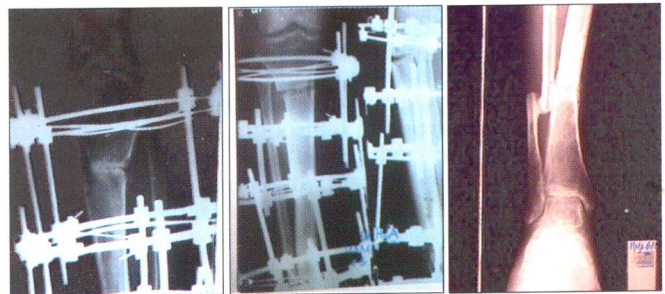
The Ilizarov method, pioneered by Gavriil Abramovich Ilizarov in Kurgan, Russia has evolved a technique using and innovative modular circular external fixator based on the biological principle of distraction neohistogenesis. Living tissue exposed to the stress of gradual traction becomes metabolically active and under goes regeneration and active growth. Ilizarov calls this new principle as the law of tension stress^{1,2} and has

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successfully applied his method to correct a wide variety of orthopedic problems, including fractures, malunions, nonunions, congenital deformities, osteomyelitis, limb-length inequalities, joint contractures, arthritis, short amputation stumps, soft tissue defects, cosmetic bone abnormalities and occlusive vascular disease^{1,2}.

Limb lengthening is possible and has been performed successfully for about 50 years in Kurgan, Russia. Gavriil A. Ilizarov developed the concept in 1951 after seeing many second world war victims, who had leg fractures that had not healed (nonunion)³.

Limb lengthening and reconstruction techniques can be used to replace missing bone and lengthen and/or straighten deformed bone segments. The procedures may be performed on both children and adults who have limb length discrepancies due to birth defects, diseases or injuries. The regenerated bone is normal and does not wear out. The muscles, nerves and blood vessels grow in response to the slow stretch like they do during a growth spurt or in pregnancy. The actual procedure is minimally invasive and requires only one or two nights in the hospital. The patients aren't in much pain since the distraction is so gradual and patients can continue to work during treatment.³



Application of Ilizarov Method in lower leg Fracture

The present paper describes exclusively with the use of Ilizarov method in the management of non-union, malunion and correction of deformities.

Subjects and methods

A prospective study was done on 51 patients attending NITOR and private clinics over the period from May 1999 to May2002 and done by group of surgeons under direct supervision of the chief surgeon. During this period total 60 patients were selected but 09 patients were lost from the follow-up. Among them 41 (80%) were males and 10(20%) were females. Their average age was 21.61 years (range 2 - 60 years). The mean time between the initial injury and the application of Ilizarov frame and ring was 8 months.

The cases in our series were non-union 41(80%), mal-union 3(6%) and deformed limbs 7(14%). Among the

deformed limbs congenital deformities were club foot, bowing of leg, and acute deformities were leg length discrepancy and equino-varus deformity

Age incidence

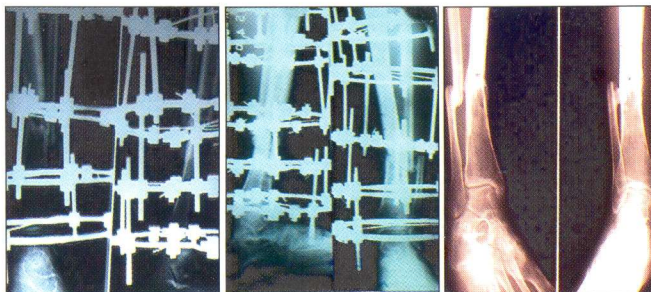
Defects	Age (Years)
Non-union	2-60years (Mean 33.36 years)
Mal-Union	6-37 years (Mean 24.33 years)
Deformed limbs Congenital Club foot Bowling of leg Acquired- Leg length discrepancy Equinovarus deformity	1-17years (Mean 7.14 years)

Complications of Ilizarov technique in our series were pin tract infections. Though hospital staying is very short but to keep Ilizarov frame in the limb for a long period may not be accepted by all patients.

Technique

The Ilizarov external fixator is a circular frame consisting of half rings, 5/8 rings, threaded connecting rods, Ilizarov wires, connection plates, hinges, posts, washers, nuts, and bolts. With these basic components, different frame configurations can be assembled⁴.

The key to success with Ilizarov fixator is pre-operative planing. Full length antero-posterior and lateral radiographs of the bone, including the joint above and below must be obtained. These full-length radiographs are used to select threaded rods of proper length and approximate ring location. Proper ring diameter is to be determined by uninjured extremity of the patients.⁵ After standard preparation and draping of the extremity the ring connection bolts on one side of the pre-assembled frame are disconnected and the frame is hinged open. The k-wires are introduced through the safe zones to avoid the neurovascular bundles. As the wires are secured to the frame and tension is applied the correction of deformity is achieved. Further correction can be achieved by olive wire.^{1,2}



Application of Ilizarov Method in Lower Fracture

Traditionally, corticotomy or compactotomy has been performed in the metaphysis or metaphyseal - diaphyseal junction to yield regenerate bone of the greatest cross section in the hope of decreasing time to removal.

Skin and other soft tissues are handle with care. 1.5 to 1.8mm wire needs no incision, but 2mm or larger wires or olive wire needs a small incision of skin only. Wires

that have a special self drilling cutting tip require no pre drilling.⁶

The delay between corticotomy and the commencement of distraction was 7-14 days. Compression at the fracture site and distraction at corticotomy site are done simultaneously if needed.

Results

Of the 51 patients, 41(80%) were non-union, 3(6%) were mal-union and 7(14%) were deformed limbs.

In our cases the average time of union was 4-3 months but it varied widely due to variation in bones like humerus, femur or tibia. No bone graft was necessary in these cases. Ilizarov rings were maintained for an average of 8 months and on an average 5cm. bone loss corrected.

Among the complications of Ilizarov 11(22%) cases were pin tract infection, 3(6%) were nerve injury (neurapraxia)-common peroneal nerve injury³, radial nerve injury¹ and these were spontaneously corrected in time), 5(10%) cases were ankle equinus, 2(4%) cases were angulation deformity (valgus or varus).

The rate of distraction was 1.0ml/day divided into four 0.25mm distraction. Later the patient could do the distraction by himself/herself by marking the screw with colorful substance like nail polish. We had a gap of 7-14 days from corticotomy time to distraction time.

Discussion

We managed the problems of non-union, mal-union, deformity mainly in lower limb and to a lesser extent in upper limbs (in humerus).

In our series 41(80%) patients were of non-union, 3(6%) were of mal-union and 7(14%) were of various deformity. Among the deformities there were congenital deformities -club foot 2(4%), bow leg 2(4%) and acquired deformity -leg length discrepancy 2(4%) and equino varus deformity 1(2%).

Conclusion

The problems of non-union or mal-union or deformed limbs burns in the flame of Ilizarov. As we can give axial loading at the fracture site, so Ilizarov method is the best method for stabilization and rigid fixation. Time has come to spread the spirit of Ilizarov procedure to every district of Bangladesh. It should be mentioned here that for this method we can use custom made instrument and implants, in stead of foreign instrument and implants.

References

1. Ilizarov GA: Clinical application of the tension-stress effect for limb lengthening. *Clin Orthop* 1990;250:8-26.
2. Ilizarov GA: The tension-stress effect on the genesis and growth of tissues. *Clin Orthop* 1989;238:249-285.
3. www.aboutlimblengthening.htm date 4/4/02, page 1-2.
4. Ilizarov GA: Experimental studies of bone elongation, in Coombs R, Green S, Sarmiento A (eds): *External Fixation and Functional Bracing*, London, Orthotext, 1989, pp 375-379.
5. Ilizarov GA: Fractures and non-union, in Coombs R, Green S, Sarmiento A (eds): *External Fixation and Functional Bracing*. London, Orthotext, 1989;pp347-357.
6. Gustilo RB, Kyle RF Templeman DC: *Fracture & Dislocations*. St.Louis Mosby Yearbook Inc.1993; 202-207.

Laparoscopic Cholecystectomy: A Study of 6500 cases

H. Kabir Chowdhury

Summary

Laparoscopic cholecystectomy has established itself as the gold standard for gallstone diseases. A retrospective study of author's personal series of 6500 cases of laparoscopic cholecystectomy is presented in this article. For better comfort of the patients, preoperative counseling, peroperative flat position, low CO₂ pressure, use of intraperitoneal Bupivacaine, antiemetic and a water-proof dressing, all proved to be useful. In difficult cases dissection with a fine tipped hook designed by the author reduced the conversion rate to a minimum. Subtotal amputation of the gallbladder was helpful in a number of extremely difficult cases to avoid bile duct injury. In a clean field with use of a peanut dissection, 2x2 gauze piece, change of traction angles, helped to safeguard the common bile duct. Intracorporeal suturing and knotting remains necessary skill to deal with complicated cases. In this series a large number of cases were done using three 5 mm ports and one 10 mm port and 1850 cases were done by needlescopic (micropuncture) technique using 3mm instruments. Reduction in the length of epigastric incision and delivering the gallbladder through the umbilical port proved to be cosmetically more acceptable.

Introduction

On 15th June, 1882, Dr. Carl Johan Langenbuch, a German Surgeon, performed the first Cholecystectomy on a 42-year-old man. Almost more than 100 years later in 1987 Dr. Philip Mouret of Lyon, France, did the first laparoscopic cholecystectomy^{1,2}, which was accepted and admired by the scientific community. This revolutionized the whole surgical arena. Today laparoscopic cholecystectomy is widely accepted as gold standard for removal of the gall bladder.

Now that the procedure has been established, surgeons are endeavoring to define the limits of laparoscopic approach, the new principles of this procedure and long-term effect on the patients. We need to review the old standards and principles of surgery in view of this new development. This article reviews 6400 cases of laparoscopic cholecystectomy done by the author.

Patients and methods

Between May 1993 and May 2002, 6500 patients underwent laparoscopic cholecystectomy by the author. All the cases were performed at different hospitals of Bangladesh except two cases, which were performed in two different workshops in India. In the early part of the series, acute cases with previous surgery were not done. But since 1994 an all-go policy was adopted. Lapchole was not done for the patients with cholelithiasis with common bile duct (CBD) stone who needed open surgery. Average age was 42 years and the age range was 8 to 93 years. Presence of gallstone was confirmed by ultrasonography. Oral cholecystography was not done in majority of the cases. Liver function tests (LFT) were done for all cases along with surface antigen for hepatitis B virus, chest x-ray, ECG, and blood sugar estimation. Endoscopic retrograde

cholangio pancreatography (ERCP) was done when serum bilirubin was raised along with raised Alkaline Phosphatase or when stone in the common bile duct (CBD) was suspected by the ultrasonologist. Cholecystectomy was done for polyp of the gallbladder in 56 cases. All others were for gall stones, where 21% of the cases were acute cholecystitis and 2% chronic empyema of the gallbladder³. Additional surgery was done when necessary in addition to the cholecystectomy, like hysterectomy, ligation of the fallopian tube, appendectomy, CBD exploration, ovarian



At the moment of abdominal Puncture during Lapchcol



Intra abdominal organs were seen during Lapchcol

cyst puncture, ovarian cystectomy and liver biopsy. Standard four-ports technique (with two 10 mm. and two 5 mm. ports) was performed in most of the cases. Since 1997, three 5 mm. and one 10 mm. ports technique was employed and 1300 cases were done. Since July 1999, micropuncture technique was introduced, using 3 mm. instruments and in the series 1850 cases were done. All the operations were performed with the surgeon standing on the left side of the patient except in three cases of situs inverses. Patient's position was reverse trendelenburg with right tilt in the earlier part of the series and later, since 1998, flat position was mostly maintained⁴. Intra-abdominal pressure was maintained mostly in between 8 and 10 mm. of Hg. Author prefers dissection with a special needle tipped hook, designed by the author using monopolar current, which proved to be extremely useful in difficult dissections. Titanium clips were used mostly, but in wide cystic duct and in acutely inflamed cases catgut tie with intra-abdominal knotting was applied. For specimen retrieval where needed a bag was made out of the surgical gloves and for stone retrieval thumb part of the surgical gloves was used.

In patients with suspected CBD stones, preoperative ERCP and stone extraction was performed and cholecystectomy was done soon afterwards. In all cases the laparoscopic procedure was explained to the patients and informed consent was obtained. Use of analgesia was minimum. In all cases wound was closed with steristrip. Patients received a NSAID suppository just after induction except where contraindicated and at the end of surgery intraperitoneal insufflation of 10 ml of 5% Bupivacaine done in addition to infiltration of local analgesic at the incision site. Patients also received single dose of 1 gm of cephadrine just before induction. During recovery they were given antiemetic injection routinely. Post operatively 85% of the patients did not require any other analgesic. Patients were allowed liquid diet 6 hours post operatively and then normal meal

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was allowed. A waterproof dressing was used routinely to allow shower after 12-18 hours of surgery. Most of the patients started normal life within 5-7 days after surgery.

Results

The mean operating time was 18 min. Conversion rate was 8% in the first 50 cases, then 3.5% in the first 600 cases, and 1.7% in first 1270 cases. Among the last 1600 cases only 12 cases were converted due to extremely difficult dissection after acute cholecystitis within 2-3 weeks and suspected malignancies.

The anatomical variations encountered were: agenesis of gallbladder¹, situs inversus totalis³, sinistroposition of the gallbladder², cystic duct from the right hepatic duct⁵, absent cystic duct⁴, along with many variations of the cystic artery⁵. In 38 cases, where cystic duct was taken up due to an impacted stone and dense adhesion formed with CBD and infundibulum, callots' triangle dissection was dangerous, subtotal amputation of the gallbladder was performed. Author developed this special technique, where at the mid-body level of the gallbladder a plane was created between the gallbladder and the liver. Then a piece catgut was passed to tie the gallbladder to avoid soiling of the field with bile, pus or stones when an incision is made above the impacted stone. After removing the stone gallbladder separated and the remnant was closed with intracorporeal suturing. Posterior wall of the gallbladder was left and cauterizes in 16 cases; cholecystoduodenal fistula was encountered in 18 cases where 11 cases were completed laparoscopically. Incidence of acute cholecystitis was 21% and empyema gallbladder 9%. In 57 patients there were previous upper abdominal surgery. Incidental carcinoma of the gallbladder was found in 67% cases.

Bile duct was injured in 3 cases in early part of the series, where in 2 repairs could be done laparoscopically and one needed conversion. Only one case was converted to control bleeding. Postoperative bile peritonitis was encountered in one case, which needed laparotomy after 8 days of surgery. There were 17 cases of incisional hernia in the umbilical port and umbilical wound infection was encountered in less than 6% cases. Hospital stay was less than 24 hours in 85% cases. In the whole series there were no mortality.

Discussion

Several studies worldwide has confirmed the advantages of laparoscopic cholecystectomy and placed this procedure as the gold standard for gall stone disease^{2,4,6}. Hospital stay, which could be less than 24 hours, minimum pain- where strong analgesic are not required, minimum scar, which is as small as 3.5-4 mm., resuming early activity, which could be even 3-4 days, are all major advantages of this procedure. This large series by a single surgeon has definitely shown that complications are minimum in comparison to open surgery. CBD injury, which is one of the dreadful complications of cholecystectomy, was shown higher in many of these series⁶. This dictates the requirement of developing training techniques and dispersing knowledge of the experts among the beginners.

To reduce the mortality and morbidity of laparoscopic cholecystectomy some of the newer principles of this technology can be discussed. Mis-identification of CBD as cystic duct is one of the most hazardous situations⁶. To avoid this, one in his early learning curve should not continue dissection with the difficult cases, in case of any doubt, and acute cases should be avoided. Most of the difficult cases are encountered 1 week to 6 weeks after and acute cholecystitis with pain, fever and leukocytosis. Before clipping the cystic duct, few points should be considered: If the duct looks

wide, if it seems to be continuous with the structure going behind the duodenum, and if, on medial dissection, the area looks empty, then one should not clip this structure and it is most likely the CBD. It is also important to stay close to the gallbladder but initial survey to identify the bluish structure and mapping the area knowing the cystic duct-CBD junction without much dissection helps the surgeon to work more confidently. At this stage, releasing the traction under vision helps to identify the true junction. And lastly, it is very much helpful to have low threshold for conversion in first few hundred cases.

Preoperative assessment of difficult cases can be done by taking detail history of any recent pain with fever and leukocytosis, ultrasonography may show thick-walled gallbladder with pericholecystic oedema, a large stone may be seen impacted in the infundibulum. Oral cholecystogram is no more an important investigation for gallstone disease. A nonvisualized gallbladder, a gallbladder with multiple large stones or a contracted gallbladder on ultrasonography, could come out as very simple and easy for dissection. Therefore, the author's policy from the very beginning was to look at the organ first before discarding the cases for laparoscopic cholecystectomy from the preserved videos surgical technique used in the series was reviewed. Following are some of the important points: (a) Use of fine tip hook with very little exposed metal to perform fine dissection, (b) Peanut dissection and use of a small gauze piece (c) Subtotal amputation of gallbladder, (d) changing traction angles to get a new view and new plane of dissection, (e) To maintain a clean field as much as possible by taking care of the first drop of blood, (f) intracorporeal suturing and tying, and lastly, (g) considering the fact that a difficult laparoscopic cholecystectomy when converted becomes a difficult open cholecystectomy, so why not continue laparoscopically if safety can be assured.

Conclusion

Because of its outstanding low morbidity, less hospital stay and excellent cosmetic results, laparoscopic cholecystectomy is clearly the treatment of choice for gall stone diseases. Three 5mm. and one 10mm. port can become the new gold standard and for those surgeons who are comfortable with 3mm instruments micropuncture (Needlescopic) surgery will be more beneficial to their patients. We need to review the old standards and principles of surgery in view of this new development. Use of newer dissection techniques proved to be helpful in reducing conversion rate and increasing safety. Author found it extremely helpful to review the recorded cases time to time, which helps in improving dissection technique. Attending workshops and observing surgery done by experts also effects improvement⁷. However, it is also important to have low threshold for conversion in early part of the learning curve. Thus laparoscopic cholecystectomy remains a safe procedure, as long as the surgeon selects the patients according to his ability and measure to be taken in prevention of complications is number one priority.

References

1. Dubois F, Icard P, Bertlot G, et al. Coelioscopic cholecystectomy. *Ann Surg* 1990; 211: 60-63.
2. Perissat J, Collet D, Belliard R. Gallstones: Laparoscopic treatment of cholecystectomy and lithotripsy. Our own technique. *Surg Endosc* 1990; 4:15-17.
3. Kum CK, Eypasch E, Lefering R, et al. Laparoscopic cholecystectomy for acute cholecystitis: is it really safe? *World J Surg* 1996; 20:43-49.
4. Nathanson LK, Shimi S, Cuschieri A. Laparoscopic cholecystectomy; the Dundee technique. *Br J Surg* 1991; 78:155-159.
5. Crosher RF, Hamarayan P, Brenner DN. Laparoscopic Cholecystectomy in Situs inversus totalis. *J R Coll Surg Edinb* 1996; 41:181-184.
6. Kano N, Yamakawa T, Ishykawa Y, et al. Laparoscopic cholecystectomy a report of 409 consecutive cases an its future outlook. *Jpn J Surg* 1994; 24: 399-402.
7. Schol FGP, Go PMNYH, Gouma DJ, et al. Laparoscopic cholecystectomy in a surgical training program. *Eur J Surg* 1996; 162: 193-197.

Efficacy of Radioiodine Therapy for Hyperthyroidism with Follow-up Problems: A study in an Urban Hospital, Bangladesh

Roquibul Hoque¹, Mr. Sanjeev Faruk², Sazzad Hossain³, MI Mazumder⁴, Md Rajibul Alam⁵

Abstract

45 outpatient [17(37.78%), 28(62.22%)] enrolled for radioiodine therapy for hyperthyroidism after having clinical history, biochemical hormone level, RAI¹³¹ uptake and thyroid scan over 3 yrs period during 1999 to 2001 at NMC, Comilla. The purpose of this study is to evaluate the efficacy of the radio-iodine for eradicating hyperthyroidism and the problems of follow-up. Of these patients, females are more sufferer 62.22% (28 of 45) than male 37.78% (17 of 45). Major population was observed in 3rd decade 44.44% (20 of 45). 30 patients of diffuse toxic goiter (DTG) (66.67%), 9 patients with DTG with ophthalmopathy (20%), 2 patients with toxic nodular goiter (TNG) (4.44%), 3 patients with relapsing thyrotoxicosis (RT) (6.67%), 1 patient with toxic multinodular goiter (TMNG) received therapeutic dose of 11.53 mCi \pm 2.6. 93.33% patients (42 of 45) received single dose and 6.67% (3 of 45) of DTG group with persistent thyrotoxicosis received multiple dose. Pretreatment with anti-thyroid drug (ATD) was given in 57.78% patient (26 of 45). Follow up was done at 3 months interval for the 1st year and than bi-annually. 26.67% (12 of 45) patients attended regularly at follow-up clinic even at the end of 2001. 13.33% (6 of 45) patients after 6 months and 4.44% (2 of 45) patients after two years became hypothyroid. 2.22% (1 of 45) patient was transiently hypothyroid. Hyperthyroidism was eradicated in 93.33% (42 of 45) patients. At the end of 3rd year, 46.67% (21 of 45) patients were lost for follow-up. In our observation hyperthyroidism was controlled with single dose of I¹³¹ in most of the cases as an effective means of treatment with chance of essentially unavoidable hypothyroidism. At the same time, the number of reluctant patient (46.67%) to attend the follow-up clinic urged to give more emphasis towards patients motivation and counseling.

Introduction

Hyperthyroidism due to a wide range of etiologies is potentially treatable by radioiodine. It is widely used for the treatment of hyperthyroidism since 1950's. The efficacy of radioiodine treatment for hyperthyroidism is undisputed with the advantage of safety, ease of administration and relative freedom from side effects¹.

Many factors contribute to the current popularity of this treatment modality as a primary and secondary management option, especially the recurrence of Graves' disease after drug therapy². The main problems associated with its use are delay in controlling hyperthyroidism and high incidence of hypothyroidism^{1,2}. Even sometimes patients may become hypothyroid many years later when they have been lost for follow-up^{1,3}. The purpose of this study is to evaluate the efficacy of the radioiodine for eradicating hyperthyroidism and the problems of follow-up.

Materials and Methods

A total of 45 outpatient [17(37.78%), 28(62.22%)] were treated for hyperthyroidism with radioiodine over 3 yrs period during 1999 to 2001 at NMC, Comilla with mean age 40 yrs \pm 9.58 and range 22 to 65 yrs. All patients were enrolled for radioiodine therapy after having clinical history, biochemical hormone level, RAI¹³¹ uptake and thyroid scan.

Diagnosis

Hyperthyroidism was diagnosed clinically and biochemically. Total T₃, T₄ and TSH were done by RIA and IRMA. Toxic nodular goitre was differentiated by radioisotope scan. Routine hematological analysis was done for those who were given ATD.

Motivation

Every patient was discussed about the radiation safety aspects of I¹³¹ therapy. They were warned beforehand that they would probably become hypothyroid in future and may need life-long thyroxin replacement therapy and they agreed to this. Pregnancy and planned pregnancy within six month of the therapy was excluded. Thus, informed consent was obtained. All patients were supplied precaution instructions for radiation safety, post-drink I¹³¹.

RAI¹³¹ Dose

Patient received oral dose of I¹³¹ with mean dose 11.53 mCi \pm 2.75 (Range:5 ~ 15 mCi) following sliding fixed dose method.

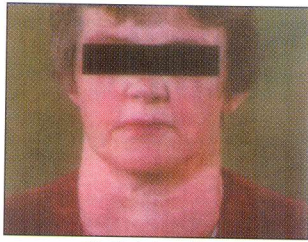
Pretreatment with Antithyroid Drugs

Patients with higher hormone level and other medical illnesses antithyroid drugs were given (neomarcazole 45 mg daily for 6-8 weeks). ATD was withdrawn for 5 days before radioiodine drink and 4 days post-drink I¹³¹. Neomarcazole was again given for another 6-8 weeks (30 mg daily). Most of the patient received propranolol for temporary relief of symptoms

Follow up

Patient was advised to attend after 10 weeks post-therapy for first follow-up, then 3 months for first year, and then biannually. At each visit, a clinical assessment was made

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Colloid goitre ↗



Severe Graves ophthalmopathy

and serum sample was sent for T_3 , T_4 , TSH estimation. Post radioiodine hypothyroidism was diagnosed on the basis of low plasma total T_4 value ($<60\text{nmol/l}$) and a raised plasma TSH concentration ($>6\text{ mIU/l}$). Replacement therapy with thyroxin was initiated at the earliest evidence of hypothyroidism and the dose was adjusted. Information was sought regarding compliance of the patient, any side effects, adequacy of follow-up and medical problems.

Results

Demographic characteristics of the study population is shown in table I and II. Females are more sufferer 62.22% (28 of 45) than male 37.78% (17 of 45). Major population was observed in 3rd decade 44.44% (20 of 45). 30 patients of diffuse toxic goiter (DTG) (66.67%), 9 patient with DTG with ophthalmopathy (20%), 2 patients with toxic nodular goiter (TNG) (4.44%), 3 patients with relapsing thyrotoxicosis (RT) (6.67%), 1 patient with toxic multi-nodular goiter (TMNG) received therapeutic dose of $11.53\text{ mCi} \pm 2.6$. 93.33% patients (42 of 45) received single dose and 6.67% (3 of 45) of DTG group with persistent thyrotoxicosis received multiple dose. Hyperthyroidism was eradicated in 93.33% (42 of 45) patients and pretreatment with anti-thyroid drug (ATD) was given in 57.78% patient (26 of 45) (Table III). There is follow-up illustration in Table - IV. 26.67% (12 of 45) patients attended regularly at follow-up clinic even at the end of 2001. 13.33% (6 of 45) patients after 6 months and 4.44% (2 of 45) patients after two years became hypothyroid. 2.22% (1 of 45) patient was transiently hypothyroid. No adverse effect of radioiodine drink was observed with any incidence of congenital malformation among subsequent offspring. At the end of 3rd year, 46.67% (21 of 45) patients were lost for follow-up.

Table I: Age distribution (n = 45)

Age distribution	Male	Female	TOTAL
21-30	2	5	7
31-40	7	13	20
41-50	5	7	12
51-60	3	2	5
61-70	0	1	1
Total	17	28	45
%	37.78	62.22	100

Table II: Age Distribution in different Thyroid diseases (n = 45)

Age distribution	DTG	TNG	DTG with OPTH	TMNG	RT	PT
21-30	5		1		1	
31-40	13		5	1	1	1 DTG
41-50	7	2	2		1	2 DTG

51-60	4		1		
61-70	1				
Total:	30	2	9	1	3
Percentage:	66.67	4.44	20.00	2.22	6.67

1. Diffuse Toxic Goiter (DTG)
2. Toxic Nodular Goiter (TNG)
3. Diffuse Toxic Goiter with Ophthalmopathy (DTG with OPTH)
4. Toxic Multinodular Goiter (TMNG)
5. Relapsing Thyrotoxicosis (RT)
6. Persistent Thyrotoxicosis (PT)

Table III: Dose given and ATD (n = 45)

Age Distribution	Dose given		ATD given	
	Single	Multiple	Yes	No
21-30	7		5	2
31-40	19	1	11	9
41-50	10	2	6	6
51-60	5		4	1
61-70	1			1
Total	42	3	26	19
Percentage	93.33	6.67	57.78	42.22

Table IV: Final outcome :(n = 45)

Age distribution	A	B	C	D	E	F	G	H	TOTAL
21-30	1			1	2	3		2	7
31-40		2	1		3	4	2	11	20
41-50	4		2		6	2	1	3	12
51-60	1				1			4	5
61-70								1	1
Total:	6	2	3	1	12	9	3	21	45
Percentage	13.33	4.44	6.67	2.22	26.67	20.00	6.67	46.67	100.00

A:	Hypothyroid after 6 months.
B:	Hypothyroid after 2 years
C:	Euthyroid
D:	Transient Hypothyroid
E:	Regular follow-up
F:	Lost from follow-up after 6 months
G:	Lost from follow-up after 1 year
H:	No follow-up record

Discussion

Diseases of the thyroid constitute the most common form of endocrine disorders and, over the past 50 years, nuclear medicine has contributed significantly in the management of thyroid patients, both in terms of diagnosis and treatment⁴. Radionuclide therapy for both benign disease (thyrotoxicosis and goitre), and thyroid cancer, has served as a model for the development of other radionuclide therapies in the recent years. In nuclear medicine, the treatment of thyrotoxicosis with radioactive iodine is considered the essential therapeutic intervention^{5,6}. None would doubt that this therapy can be effective, nevertheless, after half a century and treatment of hundreds of thousands of patients, the indications, patient selection, goals of therapy and dose selection remain highly controversial, varying greatly from country to country and institution to institution¹⁴. Following oral/intravenous administration, radioiodine is concentrated by functioning thyroid tissue and held

within the cell or follicular lumen for significant period. During this time thyroid tissue is irradiated selectively. The radiobiological effects of radioiodine at the cellular and subcellular levels are the same as that is other type of radiotherapy I^{131} derived β particle irradiation to thyroid tissue causing follicular cell necrosis and sufficient DNA damage to surviving cell to prevent replication ⁷.

The therapeutic goal of the radioiodine therapy in treating hyperthyroidism is to reinstitute the euthyroid state in a reasonable length of time from a single dose ⁸. Before giving radioiodine patient should be carefully selected excluding the low radiotracer uptake thyrotoxicosis like thyroiditis and marked expanded iodine pool loading, thyrotoxicosis fictitia, amidarone induced thyrotoxicosis^{4,6}. The treatment of choice for a particular patient depends on several factors (a) patient's age (b) presence of any associated cardio-vascular problems such as atrial fibrillation, heart failure, IHD, DM and other major medical illness. (c) previous history of hyperthyroidism and the type of treatment received (d) local medical facilities such as availability of an experienced thyroid surgeon or an adequately well equipped nuclear medicine department (e) physician's personal experience and preference (f) patient's willingness to the particular form of therapy advised⁴. Radioiodine therapy has been increasingly used for the treatment of hyperthyroid Grave's disease, toxic nodular goiter (single or multi nodular)^{9,10}. Many factors contribute to the current popularity of this treatment modality as a primary and secondary management option, specially the recurrence of Grave's disease after ATD^{9,11}. Patients with associated disease such as cardiac disease or diabetes or with high risk for surgery are best treated with I^{131} .

Once selection criteria and therapeutic goals are defined, the appropriate choice of radioiodine dose is most controversial with various methods for determining the I^{131} dosage have been employed. They are all subjects to considerable error because thyroid gland size is difficult to estimate¹², isotope retention within the thyroid is variable, inhomogeneity of iodine distribution in the thyroid, unequal sensitivity of the thyroid cells to the radiation¹³. Sliding scale of radioiodine dose preferred in many literatures^{6,14}. Hypothyroidism is not so much a complication of treatment as an 'almost inevitable consequence of radioiodine therapy.'^{13,6,16-18} The incidence of hypothyroidism is about 20-40% in the first year after therapy, increasing by about 2.5% per year to 50 -80% within 10 years². The occurrence of hypothyroidism is independent of the I^{131} dose given; it is due to latent nuclear damage to the replicative ability of thyroid follicular cells and inherent in the method of treatment ⁷. Autoimmune thyroid injury is also responsible for hypothyroidism, a higher incidence of hypothyroidism occurred in the presence of antibodies to thyroid cytoplasmic antigen.^{7,13,14,18,19}

Many physicians have been reluctant to use I^{131} therapy in young adults, adolescents, children, and pregnancy. The reasons for this reluctance are; (a) post I^{131} hypothyroidism is more likely to develop in patients whose life expectancy is longer, (b) I^{131} might cause thyroidal or other neoplasms, (c) I^{131} might cause gonadal damage. The possible induction of hypothyroidism is a less important consideration when large doses of I^{131} are used because hypothyroidism so often occurs soon after therapy. Fears that I^{131} therapy is a risk factor for thyroid

or other neoplasms have proven unfounded^{18,20}. The gonadal radiation dose after I^{131} is no more than that which results from several diagnostic radiological procedures. Follow-up of children and adolescents treated with I^{131} has revealed neither impaired fertility nor increase in birth defects in their offspring.^{18,20} Since I^{131} crosses the placenta and can destroy the fetal thyroid, pregnancy is an absolute contraindication to its use. Though, due to small sample size for a new centre like NMC, Comilla, giving service since September 1997, with short follow up (only 3 years) period which preclude any firm conclusion of long term effects of radioiodine therapy, however in our series no adverse effect of radioiodine drink was observed with any incidence of congenital malformation among subsequent offspring.

In our observation, hyperthyroidism was controlled with single dose of I^{131} in most of the cases (93.33%), which correlates well with other reports ^{8,9}. 13.33% (6 of 45) patients after 6 months and 4.44% (2 of 45) patients after two years became hypothyroid. 2.22% (1 of 45) patient was transiently hypothyroid. Radioiodine therapy is very efficient, noninvasive, radical treatment of hyperthyroidism and has practically no immediate or long-term complications, except hypothyroidism. Post-radioiodine hypothyroidism now is considered an essentially unavoidable, but readily and inexpensively treated. The availability of cheap, predictively bioavailable synthetic thyroid hormone contributes acceptability of hypothyroidism as a positive endpoint. At the same time, the number of reluctant patient (46.67% no followup record) to attend the followup clinic urged to give more emphasis toward patients counseling. Motivation and good communication with ensuring life long followup facility would encourage the regular followup and success of radioiodine therapy with improved quality of life.

References

1. Kendall-Taylor P, Keir MJ, Ross WM. Ablative radioiodine therapy for hyperthyroidism: long term follow up study. *Br Med J (Clin Res Ed)* 1984 Aug 11;289(6441):361-363
2. Doi SA, Loutfi I, Al-Shoumer KAS. A mathematical model of optimized radioiodine-131 therapy of Graves' hyperthyroidism. *BMC Nuclear Medicine* 2001,1:1 (<http://www.biomedcentral.com/1471-2385/1/1>)
3. Gibold C, Delisle MJ, Maes B, Vaudrey C, Pochart JM. Treatment of hyperthyroidism by radioactive iodine. Development of methods and difficulties in the surveillance. *Presse Med* 1988 Jul 9-16;17(27):1397-1400
4. Maisey MN. Thyroid. In: Maisey MN, Britton KE, Colliner BD, eds. *Clinical nuclear medicine*, 3rd edition. London: Chapman and Hall. 1998:331-356.
5. Cooper DS. Treatment of thyrotoxicosis. In: Braverman LE, Utiger RD, eds. *The thyroid: a fundamental and clinical text*, sixth edition. Philadelphia, PA: J.B. Lippincott CO., 1991:887-916.
6. Shapiro B. Optimization of Radioiodine Therapy Of Thyrotoxicosis: What Have We Learned After 50 Years? (editorial) *Jour Nucl Med* 1993; 34(10):1638-1641.
7. Freitas JE. Therapeutic option in the management of toxic and non-toxic nodular goitre. *Semin Nucl Med* 2000;30(2):88-97.

The rest of the article is given on Page No. 29

MSD NEWS

MSD personnels of Orion Laboratories Ltd. and Orion Infusion Ltd. again spent a busy schedule in arranging seminars in different venues as a part of Continued Medical Education Program.

SEMINARS

Seminar at DMCH

A scientific seminar jointly arranged by MSD, Orion Laboratories Ltd. and department of gynecology and obstetrics, DMCH on Intrauterine growth retardation (IUGR) was held on April, 17, 2002 at conference room, DMCH. The seminar was chaired by Prof. Dr. Sultana Jahan, Prof. and head of the department of gynecology and obstetrics, DMCH. Brigadier General Md. Nazmul Huda, Director, DMCH and Dr. Syeba Akter, Prof. of the dept. of gynecology and obstetrics were the chief guest and special guest respectively. Dr. Maliha Rashid, Asso. Prof. of gynecology and obstetrics, DMCH and Dr. Atika Rahman Asso. Prof. of gynaecology and obstetrics, DMCH were the guest of honour of the seminar. Dr. Rafat Newaz, Asst. Prof. of gynecology and Obstetrics was the speaker of the seminar. Dr. Md. Mizanur Rahman, junior executive, MSD, OLL welcomed the audience. Dr. ATM Azizur Rahman, manager, medical services department, Orion Laboratories Ltd. and Orion Infusion Ltd. thanked the learned participants.

Clinical Meetings

A clinical meeting was arranged by MSD, Orion Infusion Ltd. in the department of Anesthesiology, NITOR on management of post-operative infection and on dextrosal-iso, an isotonic dextrose-saline I.V. preparation on 9th May 2002. The meeting was chaired by Prof. Mujibur Rahman, head of the dept. of anesthesiology, NITOR. Prof. Faruq Reza Awlad, ex-director, NITOR was the chief guest of the meeting. Prof. Amzad Hossain, orthopedic surgeon, consultants, doctors of the dept. of anesthesiology were present in the meeting. Dr. ATM Azizur Rahman, manager, medical services department, Orion Laboratories Ltd. and Orion Infusion Ltd. was the speaker. Dr. Abu Hena Mustafa Zaman, MAO of OIL welcomed the participants. Mr. Md. Hanif, National Field Manager, OIL thanked the audience.

A clinical meeting was arranged by MSD, Orion Infusion Ltd. in the dept. of nephrology, BSMMU on hemodialysis and usage of normal saline in hemodialysis on 24th June 2002. Prof. Harun-ur Rashid, head of the dept. of nephrology, Prof. Habibur Rahman, Asso. Prof. Shahidul Islam Selim, Asso. Prof. Rafiqul Alam, consultants, doctors were present in the meeting. Dr. AHM Zaman, medical affairs officer, MSD, OIL welcomed the audience. Mr. Md. Hanif, NFM, OIL thanked the audience.

A clinical meeting was arranged by MSD, Orion Infusion Ltd. in IBN SINA hospital at dhanmondi, Dhaka on July, 11, 2002

on Management of post-operative infection and on dextrosal-iso, an isotonic dextrose-saline I.V. preparation. The meeting was chaired by Dr. Akman Ali, RMO, IBN SINA hospital. Dr. ATM Azizur Rahman, manager, medical services department, Orion Laboratories Ltd. and Orion Infusion Ltd. was the speaker. Dr. Abu Hena Mustafa Zaman, MAO of OIL welcomed the participants. Mr. Md. Hanif, national field manager, OIL thanked the audience.

Co-ordination Meeting of 'The ORION' Medical Journal held.

ORION Laboratories Ltd. held the co-ordination meeting of its medical journal 'The ORION' on Friday, 19th July 2002 at Dhaka Sheraton Hotel chaired by Prof. M.A. Quaderi, Ex. vice-chancellor, Bangabandhu Sheikh Mujib Medical University and Md. Obaidul Karim, managing director of the Orion Group welcomed the participants.

For further development of 'The ORION' and acceptance with substantial contribution in CME and services to the doctors' community the following eminent doctors of the country delivered their speech with suggestions and directions:

Renowned gynecologist and obstetricians Prof. T.A Chowdhury, eye specialist Prof. Mustafizur Rahman, ENT specialist Prof. M.A. Majed, child specialist Prof. M. Q. K. Talukdar, cardiologist Prof. K. H. M. S. Sirazul Haque, cardiologist Prof. Nazrul Islam, child specialist Prof. M. A. K. Azad Chowdhury, orthopaedic Surgeon Prof. A. K. M. Ishaque, Dr. G. H. Rabbani and Dr. Mahbubur Rahman, scientists of ICDDR,B, neuro-medicine specialist Prof. Anisul Haque, and manager, MSD and chief editor Dr. ATM Azizur Rahman.

Prof. T. A. Chowdhury in his speech expressed his appreciation for its regular publication and contribution in CME. Prof. M. Q. K. Talukdar in his speech encouraged its regular publication. Prof. Mustafizur Rahman also expressed his satisfaction over marked development of 'The ORION'.

In closing speech Prof. M. A. Quaderi thanked the chief editor and managing director of the Orion Group for regular publication of 'The ORION'. He also advised to take the appropriate measures for further development of this journal. Among the participants medicine specialist Prof. Sheikh Nesar Uddin Ahmed, child specialist Prof. M. N. Islam, medicine specialist Dr. (Major General) Ziauddin Ahmed, gynecologist and obstetricians Prof. Sahla Khatun, cardiologist Prof. Hasina Banu, gynecologist and obstetricians Prof. Kohinoor Begum, nutritionist Prof. Khurshid Jahan, neuro-medicine specialist Prof. Kazi-Deen-Mohammad were present. The meeting was conducted by executive editor Dr. Md. Mizanur Rahman and Dr. ATM Azizur Rahman thanked the audience.



From left Prof. T.A. Chowdhury, Prof. Mostafizur Rahman, Prof. M.A. Quaderi, Md. Obaidul Karim, M.D., Orion Group, Dr. ATM Azizur Rahman, Chief Editor

Augmentation Mammoplasty using Silicone Implants: First case in Bangladesh

S.A. Siddiky

Abstract

In 1963 Cronin & Gerow first introduced silicone breast implants for augmentation mammoplasty. Numerous scientific studies throughout the world have proved that silicone implants do not cause breast cancer. Even then it took almost 40 years before the first case could be done in our country. Ignorance, false belief, and lack of trained doctors are the reasons behind it.

A 23-year-old lady presented with severely hypoplastic breasts. She was suffering from psychological trauma and social isolation due to her physical deficit. After detailed discussion and counseling, augmentation mammoplasty was done. Under GA, small inframammary incisions were made and submuscular pockets dissected. Silicone implants were then inserted and wound closure attained in two layers.

It was pleasing to see the smile of satisfaction on her face when she saw and touched her newly constructed breasts. Within 24 hours the patient went home and after 6 months of the surgery, she is free from mental agony and has no complains. Complications like bleeding, hematoma, infection, implant displacement or capsular contracture can occur but none of them were encountered in this patient.

The author believes that a short hands on training program with particular attention to counseling and dissection, augmentation mammoplasty may be a regular operation for the plastic surgeons of Bangladesh.

Key words

Augmentation mammoplasty, Silicone implants

Introduction

There has been various misinformation and skepticism in the general public and in many of our doctors regarding the safety in the use of silicone breast implants. Numerous scientific studies carried out in the USA and UK has failed to establish any link between breast cancer and silicone implants^{1,2}. Further studies have also proved that silicone implants do not cause cancer elsewhere in the body. It also has no known link with collagen disease.

At present augmentation mammoplasty is an established plastic surgical procedure in the western world. More than 200,000 women have undergone this surgery last year in the USA alone. Even in neighboring India it is a commonly performed operation. Unfortunately we have lagged far behind in this field- the reasons being lack of insight, ignorance and absence of trained surgeons interested in this field.

In September 2000 the first case of augmentation mammoplasty was done successfully by the author at Japan Bangladesh Friendship Hospital, Dhaka. The ease with which this surgery could relieve the pain of

psychological trauma in a young lady prompted this case report.

Case Report

A young lady of 23 years presented with the complain of poor development of her breasts. She was married and had a three-year-old child. After puberty she noticed that her breasts were not developing properly. As years went by it became a growing concern for her. Due to her flat-chested appearance she suffered constantly from the pain of psychological trauma. She frequently faced embarrassment in parties and family get togethers. Even the use of padded brassiere could not save her from occasional humiliation by friends and relative. This gradually led her to social isolation.



Preoperative picture of a young lady with severely hypoplastic breast



The same lady after augmentation mammoplasty

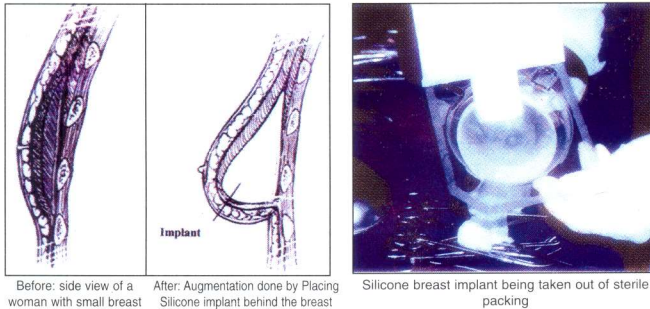
She struggled to retain a normal marital relationship and thanked to her extremely cooperative and understanding husband. "I don't feel like a woman; it seems that I am cheating on my husband"- she wept. During the last few years she went to a number of specialists in Dhaka but none could help her. On examination her breasts were found to be grossly hypoplastic. The nipple-areola complex was normal but there was a distinct absence of the breast mound. This made her look rather flat chested. Measurements revealed a 31" chest circumference with a cup size of A(-). Routine investigations were done and all of them came out normal. Detailed discussion about augmentation mammoplasty was done. Multiple consultations were made with the patient and her husband before a final date for operation was given. The consultations were deliberately spread over a period of two months, so that the details of the surgical procedure and possible complications could be discussed. This allowed the patient and her husband to go through different reference papers and the latest Internet information.

Procedure

Before operation the patient was asked to take soap water bath daily for five days (including the morning of surgery). The inframammary folds and the proposed lines of incision were marked out with the patient in sitting position. Under general anesthesia, submuscular pockets were dissected behind the pectoralis major muscle. Small

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incisions (2.5") near the submammary folds were utilized for access. After absolute hemostasis, 150 ml round, moderate profile, silicone implants were inserted into the pockets. Careful movement of the index fingers helped the 10.5 cm diameter implants to be inserted through an incision almost half its size. After assessing the implant position and external symmetry, closure of the incisions were done in two layers. The deeper layer took care of the inframammary fold- preventing subsequent downward displacement of the implant; and the skin was closed by a continuous subcuticular 6/0 vicryl. Special care was taken to avoid pricking the implant during placement of the sutures. Drains were not employed, and the use of local steroid avoided.



Before: side view of a woman with small breast After: Augmentation done by Placing Silicone implant behind the breast

Silicone breast implant being taken out of sterile packing

Postoperative recovery was rapid. It was very pleasing to see the smile of satisfaction on her face as she saw and touched her newly constructed breasts. The patient went home after 20 hours of the operation. Complications like bleeding, hematoma, infection, implant displacement, or disruption were not encountered. Nipple sensation was intact. The patient comes for regular follow-up and after six months of surgery there is no evidence of capsular contracture, as evidenced by an entirely normal soft consistency of the breasts. She has been advised to come back for regular follow-up. Free from her social isolation and mental agony, the patient is now a happy woman leading an entirely normal life.

Discussion

It is imperative that plastic surgeons and related health personnel in our country should address the social and psychological problems related with abnormal breast development in women. Women with hypoplastic breasts suffer immensely from their incomplete and disproportionate figure. Since the pain is deep down and silent it may be hard to recognize until one talk to them in confidence. Patients who had their breast removed for cancer should also be considered in the same sympathetic manner. Hundreds of mastectomies are being done throughout the country, many of them can in fact benefit from breast reconstruction. Suitable patients with early breast cancer should therefore be considered for reconstructive mammoplasty. Immediate reconstruction with muscle flaps and/or silicone implants can be done in selected cases³. This can alleviate the psychological trauma of disfigurement resulting from breast removal.

One should not think that augmentation mammoplasty is an abuse of plastic surgery meant to increase indecency in our society; rather it is a gift of science which can help restore normalcy in many unlucky women. For hundreds of years men have tried to augment the breast by implanting different materials such as ivory,

wool, sponge, and fat transplanted from other parts of the body⁴. Because of various complications none of them could stand the test of time. Silicone breast implant was first introduced by Cronin & Gerow in 1963. Since then it has been accepted as the only reliable material for use in augmentation mammoplasty⁴. Liposuction, which is a popular cosmetic surgery in the west, took 30 years before it could be started in Bangladesh⁵. Augmentation mammoplasty took almost 40 years before the first case was done in our country.

In 1991 a batch of silicone implants which had an outer coating of polyurethane was removed from the US market. It was done after a research finding revealed that polyurethane breakdown product is carcinogenic in rats⁶. Nowadays polyurethane is no longer used in the manufacture of silicone breast implants; and till date these silicone implants have been found not to cause cancer in humans or in rats. In fact studies in Canada and USA has shown a lower incidence of breast cancer in patients with long term exposure to silicone implants^{1,2}.

There are four different approaches that can be used for insertion of breast implants: they are inframammary, periareolar, axillary, and umbilical. The pocket dissected for implant placement can either be subglandular (in between the breast and the pectoralis major muscle) or submuscular (behind the pectoralis major muscle). In this patient the implants were placed in the submuscular plane because the glandular element was very thin. It is important to discuss in detail the procedure and the possible complications with the patient. Capsular contracture can be minimized by careful dissection, adequate pocket size, absolute hemostasis, accurate selection of implant size, and by instituting regular self message early in the postoperative period⁴. There are numerous companies producing breast implants, but the surgeon should use the brand, which he is familiar with. It is not wise to use implants coming from unknown companies. In reduction mammoplasty, lactation and nipple sensation can become hampered. But in augmentation mammoplasty pregnancy and breast-feeding is not hampered. Nipple sensation also remains unaltered.

Conclusion

Numerous scientific studies have proved that silicone breast implants do not cause cancer. Augmentation mammoplasty is a gift of science which can help alleviate the pain of psychological trauma in women with hypoplastic breasts and in those who had their breast removed for cancer.

References

1. Berkel H, Birdsall DC, and Jenkins M. Breast augmentation: a risk factor for breast cancer? *N. Engl. J. Med.* 326:1649, 1992.
2. Brody G. Silicone implants and the inhibition of cancer. *Plast. Reconstr. Surg.* 96:519, 1995.
3. Grotting JC, Urist M, Maddox WA, et al. Conventional TRAM flap versus microsurgical TRAM flap for immediate breast reconstruction. *Plast. Reconstr. Surg.* 83:828, 1989.
4. Coburn RJ, dehaan CR and Fisher JB. Augmentation mammoplasty. In Stark RB, and Aufricht G. Editors. *Aesthetic Plastic Surgery*. New York: Little, Brown and company, 381-408 (1980).
5. Siddiky SA, Rahman A, et al. Tulip Liposuction: A New Technique in Bangladesh. *Journal of Dhaka Medical College*. 1999 Oct:120-25.
6. Fisher JC. The silicone controversy: When will science prevail? *N. Engl. J. Med.* 326:1696, 1992.

Chronic Suppurative Otitis Media (CSOM): Bacteriological Study

Anwarul Haider

Abstract

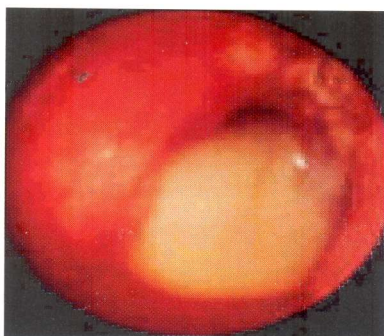
654 Patients with CSOM were subjected to total 736 Sample were assessed. This study suggest streptococcus (26%) and pseudomonas aeruginosa. Were the signigicant causative organisms in chronic of betahaemolytic streptococcus in children with CSOM. Chronic suppurative otitis media is one of the commonest illnesses in ENT and head-neck surgery practice which requires medical attention all the more in children of poor socio-economic status having in past inadequate treatment and negligent medical care. Chronic otitis media is a destructive, persistent disease with irreversible sequelae. Microorganisms reach middle ear by passing through the lumen of eustachain tube from nasopharynx or by spreading in the lamina propia of the mucosa as an extending cellulites or thrombophlebitis. The changing bacterial flora with widespread use of antimicrobials often leading to multiple resistant strain of bacteria in the last decade have promoted us to further study which will presumably fascinate the practicing ENT specialist.

Historical Aspct

Morgagni was the first of describe the suppuration in ear as primary lesion. Audiņa and Alleman (1950) started their work on importance of testing the resistance of pathogenic bacteria and their sensitivity.

Meterials and Methods

The work presented in this series was carried out dung the years 1995 through 2000. A total of 736 samples were collected from 654 patients. All the patients were of out patients department of 3 tertiary teaching hospitals in Bangladesh with presenting symptoms shown in table 1.96 post-operative patients were also



Tympanic membrane in CSOM

included attending OPD as discharging ear, operated at various centers including ours. Out of 654 ratients 439 ware children and 215 were adults. 28% were female. The predominant physicale signs of choronic information are shown in Table III.

After a preliminary examination of smell, gram staining

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for morphological characteristics was done. The materials was collected with utmost precaution by a specially prepared thin sterile swab avoiding touch to canal, and it was cultured on blood agar, MacConkeys agar and blood agar containing 60 micro. gram/L neomycin and metronidazol 5 rig/disc for anaerobic Jars.

Result

The bacteriological findings are listed in table IV. Altogether 76 bacteria were isolated 68 aerobic or facultative aerobic and 8 anaerobic. Culture was sterile in 16% cases. It may be due to interrupted electricity supply even in the best centre and inadequate anaerobic culture facilities in privet pathological laboratories.

Monobacterial Infection was observed in 80.7% cases and polybacterial in 3.3% cases . E.coli was the second main offender in post operative cases.

In children most common bacteria were betahemolytic streptococci, the *staphylococcus aureus*. pseudomonas were next . In the adult group pseudomonas aeruginosa and P. pyocyaneus were main offenders. In postoperative cases *Staph.aureus* was the most common offender, anaerobes were isolated in cholesteatoma patients.

Table -1 : Presenting symptoms in 654 cases in CSOM

Presenting symptoms	No. of cases	Percent
Discharge	65	100%
Itching	113	17.27%
Pain	61	9.32%
Loss of Hearing	46	7.03%
Post Aural Swelling	11	1.68%
Post Aural Sinus	8	1.22%

Table-II : Showing age and sex distribution among cases of CSOM studied

Age (In years)	Male		Female		Patient	
	Number	Percent	Number	Percent	Number	Percent
0-15	334	71.06	105	57.06	439	67.12
16-30	65	13.82	27	14.67	92	14.06
31-45	46	9.78	27	14.67	73	11.14
46-60	20	4.25	24	13.04	44	6.72
61 and above	5	1.06	1	.54	6	.91
Total	470		184		654	

Table III: Showing characteristic of the discharge

Type of discharge	No. of Cases	Percent
Mucoid	176	29.91
Mucopurulent	306	46.78
Purulent	172	26.29
Odour Less	593	90.67
Foul Smelling	61	9.32

Table IV. : Bacteria isolated from 736 samples

Organisms	Percentage showing growth	Total organisms isolated
Monomicrobials	80.7%	594
Polymicrobials	3.3%	24
No organism	16%	118
Total	100%	736
Aerobic	80.6%	593
Anaerobic	3.4%	25
No Organism	16%	118
Total	100%	736

Description

The study of the bacteriology and drug sensitivity is necessary to enable the treating family physician to plan the general management of C.S.O.M. and it is almost essential for the E.N.T. Surgeon to make the discharging ear (tubotympanic type) dry for better results of myringoplasty and ossiculoplasty.

Monobacterial information was observed in 80.7 cases while Ayyagari et al. Found in 50.5% cases and Rao et. al. in 68.52% cases.⁶ In our series the children were affected more.

Males were affected most according to Ayyagar, (63%) and Rao (44%) and also in this series. In children most common bacteria were betahemolytic streptococcus, staphylococcus aureus, pseudomonas and Streptococcus pneumoniae. Haemaphilus influenza and streptococcus pneumoniae were to be the commonest infecting organisms in C.S.O.M. amongst infants and children from Japan. Ayyagan et al. have reported betahemolytic streptococci and streptococcus pneumoniae, In the adults Staphylococcus aureus was the main offender which is consistent with Rao et al.

Table V : Organisms isolated from ear discharge

Organisms	No	%	No	%
Gram Positive:			365	58.9%
Staphylococcus aureus	190	30.7%		
Betahaemolytic Streptococci	161	26%		
Streptococcus pneumoniae	8	1.3%		
Streptococcus viridans	6	1%		
Gram Negative			228	37.1%
Pseudomonas aeruginosa	99	16%		
Proteus	21%	3.4%		
Esch. Coli	65%	10.6%		
Klebsiella species	43%	7%		
Anaerobes	25%	4%	25	4%

Pseudomonas comes next in the list while Ayyagari et al, observed it as the main offender. Nene et al. observed pseudomonas proteus followed by Klebsiella and staphylococci. The bacterial flora in the present series is more or less in corroboration. With the series from the western world, It is the Invasive property of staphylococcus aureus which is responsible for the largest number of cases as in the present series, of they may be second to pseudomonas species, The resistant strains are now not uncommon in India on account of widespread use or abuse of antibiotics in the remote corners of population.

In the present series the drugs of choice were cefataxime, amikacin, norfloxacin, netilmycin, and gentamycin but not clinical trials cost effective treatment in OPD by norfloxacin 2 mg/kg with 20mg/kg metronidazole gave the best results, post operative cases, where the culture was sterile or resistant to all antibiotics, responded best to local povidone iodine drops and repeated cautery of granulations and dressings with mixed cream of antibiotic and antifungal agents.

Conclusion

Culture and sensitivity should be done in all cases and treatment should be given for sufficient length of time. Norfloxacin, metronidazole, gentamycin are the economical drugs and should be kept in first line of the management empirically. Cefataxime, amikacin and netilmycin should be given after culture and sensitivity. Topical povidone iodine solution as drops need a further evaluation to establish it as ear drops specially in resistant Staphylococcus aureus cases or in post operative discharging ears middle ear is sealed by graft.

References

1. Brook I. and Finegoki S.M. Bacteriology of chronic otitis media. JAMA 1978 : 241 : 487.
2. Rao B.N. and Reddy M>S chronic suppurative ot/Us 1994 : 72-77.
3. Bluestone C.D. Recent advances in the path oge Pediatr CLL,,/. North Am. 1991 28 (4) : 727-755.
4. Gulati J., Tandon P.L., Singh Waryan, Ba/s AS. Media, md. J. Otol. 1999:21(4) : 198-202.
5. Desal Bha van, 1-Lussain Masood, Panhotra B.P., Chi India Pediatrics, 1997 : 417-419.
6. Ayyagari A., Paancho/ I V. K., Pandhi S.C., Goswami A. Chronic suppurative otitis media, India J. Med. Res. 1991 : 73 : 860-864.
7. Yea S., Lit, M.Sdaawd J. Lim, Raaymond WL. Immunochemical and bacteriological in vestigations, Arch. Otolaryngol. 1995 : 101 : 278-286.
8. Deka P.C. Kacker S.k. Chronic otitis media. Eye, Nose & Throat Journal 1995 : 54 : 198-201.
9. Nene S.S., Joshi B.N. and Patil S R A study of chronic otitis media microbial Flora with antibiogram. Indian medical Gazette 1999 : 54-56.
10. Nandy A, Mallya P.S. and Sivara Jan K. Chronic Indian journal of Otol. 1991 43 : 136 -138.

Facts of Fetal Development

- Day 1 - Conception takes place.
- 7 days - Tiny human implants in mother's uterus.
- 10 days - Mother's mense stop.
- 18 days - Heart begins to beat.
- 21 days - Pumps own blood through separate closed circulatory system with own blood type.
- 28 days - Eye, ear and respiratory system begin to form.
- 42 days - Brain waves recorded, skeleton complete, reflexes present.
- 7 weeks - Thumb sucking .
- 8 weeks - All body systems present.
- 9 weeks - Squints, swallows, moves tongue, makes fist.
- 11 weeks - Spontaneous breathing movement, has fingernails, all body systems working.
- 12 weeks - Weight one ounce.

Source : M. Allen et. al. " The limits of viability." New england Journal of Medic/ine

Prevalence of Asthma among Urban Population: A study

Abu Altaf Hossain

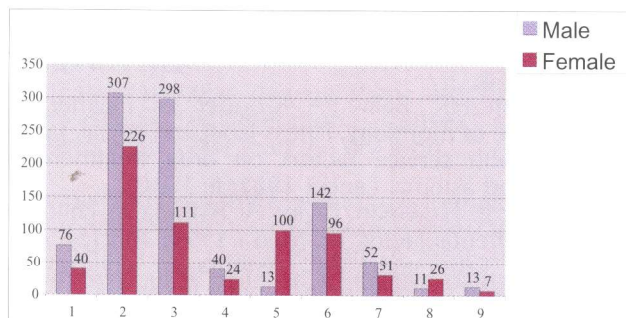
Abstract

Asthma is a common unpleasant disease, affecting upto 12% of urban population, and resulting in disability, considerable ill-health, absence from work, and extra costs to health services. It may affect the child's education and long-term prospects, and have future consequences for the family and community as a whole.

Introduction

Recent studies shows that asthma is an allergic disorder, exacerbated by atmospheric pollution, and acute episodes, in particular, are preventable with adequate therapy.¹ As these episodes can be fatal, much effort has done for the detection, prognosis, prevention, and treatment of asthma.

Statistics over the past three decades have indicated an increase in prevalence and admission rates for asthma.² Actual mortality seems to be decreasing (a recent change) but increase in prevalence and admission rates may reflect an increase in public and medical awareness of asthma, coupled with increasing reliance on nebuliser treatment.³ Earlier recognition and intervention of acute episodes will inevitably lead to a rise in hospital referral rates, and all protocols for self-care in asthma emphasize the need for early medical intervention when symptoms fail to respond to self-medication.



1-2= 1st decade, 3=2nd decade, 4=3rd decade, 5= 4th decade, 6=5th decade, 7=6th decade.

Male incidence = 10.9% & female incidence 8.39%

The importance of early prognosis, coupled with patient/family education and continuing support of the asthmatic patient within primary health care has been stressed in all recent studies and protocols. Most asthma care takes place at this level, and effectiveness can be measured in terms of relief of symptoms, reduction in time of work, improved exercise tolerance as well as reduction in hospital admissions and mortality. It must be kept in mind that this may also be reflected in increased prescribing costs, and increased referral to chest clinics

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(but not necessarily admission). Good prophylactic therapy and intensive education are both expensive, but pay dividends in the long term.

Asthma statistics are often 'smoothened' by subjective data, i.e. different methods of case finding, variable labeling (especially in general practice), non identical questionnaires of symptoms, and difficulties in reproduction of data based on peak-flow readings (unreliable particularly at pediatric ranges in spite of good equipment) and between different meter types." Ipso facto, our 'objective' measure on which we base both diagnosis and response to treatment has its own limitations, and trends rather than plain figures are more reliable.

Taking this into account, long-term planning for asthma services is an important target for those at risk. Much is possible, up to 50% reduction in acute severe episodes has been demonstrated with good prophylactics⁴.

Methods

In my chest clinic and medical OPD which are located at Dhaka north, a custom designed computer system has been used to collect demographic details of all patients together with comprehensive details of each patients episode. Details of all patient episodes were encoded onto forms designed for this purpose. Expert personnels were involved in the development of both the coding system and the design of the data collection form, providing them with both familiarity and motivation toward the system as a whole. Information taken over a twelve months period was then analyzed, revealing the prevalence of asthma among the urban population studied.

Results

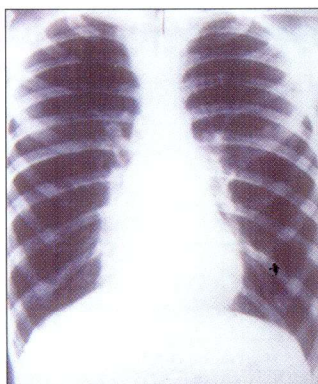
We present statistics from a chest clinic and medical OPD serving the population randomly. Our figures reflect similar trends as presented elsewhere, on different institution and in different situations.

Over a one-year period in this clinic, covering 3702 patients, the incidence of male and female asthmatics were 10.90% and 8.39%, respectively.

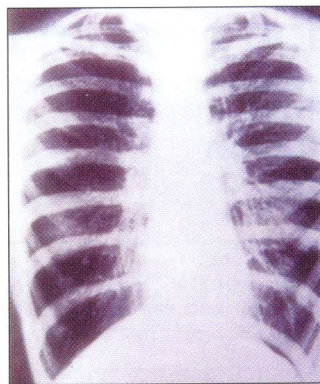
Asthmatic men were also more likely to consult for asthmatic episodes during this study than women.

The exceptions to the above occurred during the third decade and between the ages of 50-65, where female asthma consultation rates outnumbered those of the male patients.

There is a biphasic peak pattern to all of our graphs, indicating ages when asthma is more prevalent. This applies both to numbers of asthmatic people and is mirrored in consultation rates for asthma.



CXR of a 12 yrs asthmatic child since 9 years, shows over inflation of lungs, prominent hilar vessels & overall bronchovascular prominence. Clinically shows FEV₁ was 0.89 (62%)



CXR of a 9 yrs old child asthmatic since 4 yrs, shows mild over inflation of lungs. Clinically shows FEV₁ was 1.81 (69%) & P.F was 167 (70%). Here the Pulmonary vessels show normal pattern.

The first (and larger) peak occurs in childhood between 1-14 years and the second peak in early middle age, 30-50 years.

Discussion

Incidence of asthma in male is 10.9%, female 8.39% (all ages). This is compatible to figures of between 5-15% depending on study. A previous study in Dhaka shows a population prevalence of 9.72%, and a similar UK study 11.5%.⁶ Male attendance (9.83%) outnumbered female attendance (7.39%), such situation also found elsewhere. There are no reliable figures for the prevalence of asthma in general practice in Bangladesh.

The male preponderance is worldwide, with a male-female asthmatics ratio of 1.5:1. Asthmatic female attendance outnumber male in the third decade and again, at 50-65 years. It is of interest that one of the predictors for childhood asthma continuing into adulthood is belonging to the female sex.⁵

There is double-peak pattern to our graph of episodes by age / sex. This is also seen elsewhere, with peaks in childhood (1-14) and again in middle age (30-40). This is also reflected in the charts for both men and women individually.

There are difficulties in diagnosing asthma in children under two years old and a reluctance on the part of doctors to label children as such.⁴

The sudden increase in numbers may reflect a willingness on the part of medical staff to diagnose this condition after the age of two, rather than an actual increase in prevalence.

Severe respiratory tract infections, in particular viral, are thought to play a causative role in asthma, and especially in younger children, and this may help to boost numbers as such infections are common in this age group.^{1,3} Almost half of all wheezing episodes in young children are associated with viral infections. Up to 60% of these wheezy children will be symptoms free in adult.⁶

The later peak is the well recognized 'adult onset' asthma but many of them had no complain of childhood asthma, and there is also an overlapping with chronic obstructive airway diseases, which can present with similar but less reversible symptoms.^{4,6} Again, objective diagnosis and a

trial of steroids are necessary to separate between these cases.

The individual charts for men and women, respectively, shows similar asthma attendance patterns, with a marked preponderance in childhood. At all ages, the annual average attendance rate per patient was two. This may reflect lack of frequent surveillance and special asthma clinics, which review usually at three monthly intervals. As in other tropics attendance are increased in the spring in Bangladesh to due to dust, smoke from vehicles as irritants. Interestingly, girls were less likely to consult at ages 5-14 than boys, but more likely at ages 20-30.

Summary

In summary, the prevalence of asthma appears to be rising possibly as a result of atmospheric pollution and admission, prescribing, and attendance rates are all increasing, although mortality is declining.

Methodological differences in detection and reporting of asthma can cause misleading figures and difficulties comparing one study with another.²

All over it is accepted that asthma is a common and unpleasant condition, good preventive measures and treatment and statistical data collected both nationally and internationally can help to form a reporting system, enabling governments and NGOs to plan for better education, planning, and supporting services for asthmatic patients.

References

1. Speight ANP, Lee DA, Hey EN. Underdiagnosis and undertreatment of asthma in childhood. *Br. Med J* 1983; 86: 1253-6.
2. Sly PD, Cahill P, Willet K, Burton P. Accuracy of mini peak flow meters in indicating changes in lung function in children with asthma. *Br Med J* 1994; 308:572-4.
3. Anderson HR, Baily PA, Cooper JS, Palmer JC. Influence of morbidity, illness label and social, family and health service factors on drug treatment of childhood asthma. *Lancet* 1981; ii: 1030-2.
4. Cullinan P, Newman Taylor AI. Asthma in children: environmental factor. *Br. Med J* 1994; 308:1585-6.
5. Hill R, Tattersfield AE. Asthma in children; a comparison of community surveys in the UK. *Thorax* 1988; 43:258-9.
6. Jenkins MA, Hopper JL, Bowes G, Carlin JB, Flander I, Giles GG. Factors in childhood as predictors of asthma in adult life. *Br Med J* 1993; 309:90-3.

CONDOLENCE

We learnt with great shock the demise of professor (Major General) Anis Waiz, principal and professor of medicine, Bangladesh Medical College and Hospital and the honorable member of the Advisory Board of 'THE ORION' medical journal on 13th August, 2002 and express our sincere sympathy and condolences to the members of his family, colleagues and staff of Bangladesh Medical College and Hospital. May Allah keep him in eternal peace.

Chief Editor
THE ORION

Age Related Macular Degeneration: A Review

Niaz Rahman

Age related macular degeneration (AMD) is the most common cause of blindness among people over 60 years of age and represents a major worldwide public health crisis. Exactly why it develops is not known. The disease is frustrating because currently there are very few treatment options and no proven preventive therapy.

Demographics

AMD is a widespread condition in the elderly which is increasing. According to Framingham data: AMD may affect as many as 20% of people age 65 and over, compared with less than 2% of people aged 52 to 64.

Types

Two distinct types -
Nonexudative or dry
Exudative or wet

Each representing a different stage of the same disease process.

AMD dry type

Nonexudative macular degeneration also called "dry," atrophic, or non-neovascular macular degeneration. The dry type carries a better prognosis.

The hallmark of dry macular degeneration is small, round, white-yellow lesions in the macula, called drusen.

AMD wet type

Exudative macular degeneration also called "wet" or neovascular degeneration. Causes severe visual deterioration faster than the dry form.

The pathogenesis of the wet form is formation of aberrant choroidal angiogenesis i.e. neovascularization. The exact mechanism for the formation of these new vessels is unknown but is believed to involve damage to Bruch's membrane, presumably by drusen. The drusen allow an angiogenic stimulant (such as vascular endothelial growth factor) to promote the growth of underlying choroidal blood vessels into the sub retinal space and retina. These tufts of neovascularization are fragile and have a propensity to leak and bleed, eventually forming a fibro vascular scar and resulting in irreversible vision loss.

Vision Loss

The cause of vision loss in patients with dry macular degeneration is atrophy of the retinal pigment epithelium and the overlying photoreceptor cells.

In wet or exudative type the macula degenerates when capillaries proliferate under the RPE, sometimes growing into the sub retinal space. These capillaries leak leading to RPE detachment and they eventually bleed leading to

scar formation in the macula destroying central vision.

Signs and Symptoms

AMD are relatively few and should be immediately recognizable.

The classic symptoms are decreased central visual acuity, metamorphopsia and perhaps a central scotoma.

Dry AMD patients may have no symptoms

Ophthalmoscopy - Macular examination clinically is enough to come to a diagnosis. The use of slit lamp biomicroscopy with contact or non-contact lenses is the mainstay. Direct ophthalmoscopic examination is also valuable.



Dry AMD

Dry type

Early signs - yellow-white, round, macular drusen.

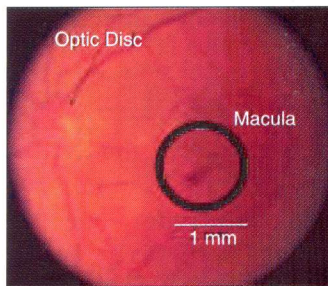
Late signs - fibro vascular scarring, hemorrhage, atrophy.

Wet type

Early signs - focal macular edema with underlying dirty grayish membrane at choroidal level which may have surrounding hemorrhages. May also present with a serous macular detachment.

Late signs - established macular edema with sub retinal hemorrhage and exudation.

Any of these findings should prompt an urgent referral to a retina specialist.

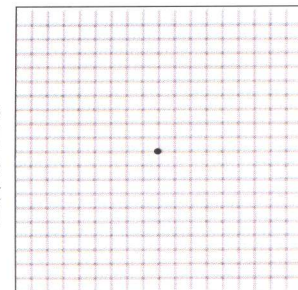


Wet AMD

Single most important tool in detecting progress of

Amsler Grid

Single most important tool in detecting progress of



Amsler Recording Chart

AMD. It is an objective test to find out image distortion. All ophthalmologists must be familiar with its use and it must be recommended to all patients with AMD.

ANGIOGRAPHIC DIAGNOSIS

Fluorescein Angiogram (FA)

The hallmark of diagnosis and treatment of choroidal neovascularization.

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Vitreoretina specialist Director, Retina Foundation Consultant, Islamia Eye Hospital.

- ❖ FA often pinpoints the location and extent of nonvascular membranes and can guide laser photocoagulation.
- ❖ Unfortunately, only about 13% of angiograms show a treatable localized lesion, or "classic" choroidal neovascularization. The other 87% show diffuse, poorly defined, hyperfluorescent lesions that are not amenable to laser photocoagulation. These images are called "occult" choroidal neovascularization

Indocyanine Green Angiogram (ICGA)

- ❖ Indocyanine green (ICG) dye has recently proved effective for demarcating poorly defined or occult fluorescein angiographic areas of neovascularization.
- ❖ ICG dye permits better visualization through overlying blood and sero sanguineous fluid which are substances often responsible for blocked visualization on fluorescein angiograms.
- ❖ ICG angiography offers potential for increasing early detection of macular degeneration amenable to laser photocoagulation.

Proven Treatment

- ❖ For dry AMD - Currently no treatments or preventive measures, other than low vision aids.
- ❖ For wet AMD - The clinically proven treatment for wet AMD is macular laser photocoagulation to the choroidal neovascular tissue and photo dynamic therapy. The guidelines for laser photocoagulation for choroidal neovascularization were outlined in a series of studies, 'macular photocoagulation study group'.

Laser Photocoagulation

Laser photocoagulation is a destructive treatment in which tissue is ablated by heat. Since subfoveal neovascularization lies directly below the fovea laser treatment inevitably destroys this important tissue.

Photo-Dynamic Therapy (PDT)

The current form of treatment for WET AMD with classical choroidal neovascular membranes. This treatment has revolutionized AMD management in the last few years and so far offers the best available treatment modality.

PDT is a dye and laser combination therapy. A Photosensitive dye and a non thermal laser

- ❖ Injected dye localizes in neovascular tissue then the tissue is subjected to laser. This activates the dye leading to development of singlet oxygen and other free radicals, which damage nearby cells including endothelial cells lining the neovascular tissue. A thrombus is produced that closes neovascular vessels.
- ❖ Theoretically, the underlying abnormal blood vessels can be selectively destroyed without damaging the overlying sensory retina, which always happens in thermal laser photocoagulation.

Surgery

Many AMD patients are offered the choice of surgery. There are basically two modalities - submacular surgery - performing a vitrectomy with retinotomy, entering the subretinal space, and excising the neovascular membranes. This does not allow central vision to return but prevents future hemorrhage and destruction of more macular tissue as the lesion is excised out of the eye.

Retinal translocation - rotating the whole retina or shifting the macula a few degrees in an attempt to create a new fovea.

Alternative treatments

- ❖ Proton beam irradiation
- ❖ Drugs - still under investigation, oral zinc may be useful, but clinical data limited. Several drugs are in early stages of investigation interferons, angiogenesis inhibitors, and nerve growth factors¹.

Focusing on Prevention

- ❖ The outer retina is rich in polyunsaturated fatty acids, which are easily oxidized by free-radicals and singlet oxygen produced in the course of normal metabolism and also through the effects of light which may cause macular damage.
- ❖ Some vitamins function as anti-oxidants, chemicals that work against this activated oxygen, and perhaps protect the macula from damage.

Antioxidants and AMD

- ❖ It is claimed that anti-oxidant vitamins (vitamin A, C and E) can help slow down macular degeneration and other aging factors.
- ❖ The role of vitamins, minerals, and antioxidants in the prevention of macular degeneration has conflicting information.
- ❖ High serum levels of vitamins E, A, and C, as well as zinc, may be beneficial.

Carotenoids and AMD

- ❖ Because nutritional factors may play a role in AMD, Seddon et al. decided to correlate the disease with dietary antioxidant intake in subjects participating in the NIH eye disease case-control study².
- ❖ Enrolled were 356 case subjects with AMD (56% female; average age 71) and 520 control subjects with other eye diseases (55% female; average age 68).

Study Results

- ❖ Statistically significant and apparently linear trend for a reduction in risk for AMD (estimated 43% reduction) with increasing amounts of carotenoids in the diet.
- ❖ Of the carotenoids, lutein and zeaxanthin were the most strongly associated with reduced risk of AMD - obtained primarily from dark green, leafy vegetables. Eating spinach and collard greens five or more times a week markedly reduced the risk of AMD (odds ratio 0.14).

Oxidation and Tissue Damage

- ❖ Some normal metabolic processes produce reactive by products which can do damage if not kept under control. Among these reactive by products are three forms of oxygen: molecular oxygen, peroxide and superoxide.
- ❖ These all react by taking electrons from other molecules, a type of reaction called *oxidation*.
- ❖ The body prevents damaging oxidations by providing compounds with which the oxidants can react harmlessly - *antioxidants*.

Aging and Antioxidants

Researchers have found that as we get older, our bodies' systems for controlling potentially harmful oxidants by reacting them with antioxidants become less effective. The enzyme that catalyzes the reactions may not be as abundant.

Those with the highest levels of the antioxidants selenium, vitamin C, and vitamin E may have a 70% lower risk of developing macular degeneration³.

People who eat fruits and vegetables high in beta-carotene, another antioxidant, are also at low risk. Goldberg J, Flowerdew G, Smith E, et al. Factors associated with age-related macular degeneration⁴.

Recommendations

Some doctors of natural medicine recommend antioxidant supplements to reduce the risk of macular degeneration; reasonable adult levels include 200 mcg of selenium, 1,000 mg vitamin C, 400 IU of vitamin E, and 25,000 IU of natural beta-carotene per day.

Recent Studies

- ❖ The potential effects of vitamins and age related macular degeneration.⁵
- ❖ Associations of antioxidant enzymes with cataract and AMD. The POLA study⁶.
- ❖ Antioxidant vitamins and age related eye disease⁷.

Conclusions

- ❖ Oxidative mechanisms may play an important role in the etiology in delaying the onset of cataract and AMD.

- ❖ Evidence from epidemiological studies support the role. But it has not yet been possible to conclude the assumption.
- ❖ Well designed randomized trials are required to evaluate definitely the benefit of the supplementations.
- ❖ A summary of the epidemiological evidence suggests that it is prudent to consume diets high in vitamins C and E and carotenoids, particularly the xanthophylls as an *insurance* against the development of cataract and AMD⁸.

References

1. D'Amico DJ. N Engl J Med. 1994; 331: 95-106.
2. Seddon JM et al. JAMA. 1994; 272: 1413-1420.
3. Arch Ophthalmol 1993;111:104-9.
4. Am J Epidemiol 1988;128:700-10
5. Jacques,PF:Int-J_Vitam-Nutr-Res. 1999 May 69(3): 198-205
6. Delcourt.c et. al.: Ophthalmology. 1999 Feb;106 (2) 215-22
7. Christen-WG: Proc-Assoc-Am-Physicians 1999 Jan-Feb 111(1): 16-21.
8. Jacques,PF:Int-J_Vitam-Nutr-Res. 1999 May 69(3): 198-205

Launching of New Products

Orion Laboratories Ltd. has recently introduced the following new products in the market.

1) Flustaph (Flucloxacillin)

Flustaph (Flucloxacillin) is an isoxazolympenicilline, bactericidal antibiotic that is particularly useful against penicillinase producing staphylococci. It is indicated for the treatment of skin and soft tissue infections, respiratory tract infections, osteomyelitis, septicemia and urinary tract infections. Flustaph is presented in the form of capsule 250mg, 500mg and also dry syrup 125mg/5ml.

2) Ormin 500mg (Metformin Hydrochloride)

Ormin 500mg has been launched in addition to Ormin 850mg launched earlier.

3) Lipex (Atrovastatin)

Lipex (Atrovastatin) is a synthetic lipid lowering agent, an inhibitor of 3-hydroxy-3-methyl-glutaryl

coenzyme A (HMG-CoA) reductase. It is indicated in primary hypercholesterolaemia, heterozygous familial hypercholesterolaemia, homozygous familial hypercholesterolaemia or combined (mixed) hyperlipidaemia in patients who have not responded adequately to diet and other appropriate measures. Lipex is presented in the form of tablet 10mg.

4) Frulac (Spironolactone and Frusemide)

Frulac (Spironolactone and Frusemide) is a combination diuretic containing a loop diuretic, frusemide and a potassium sparing diuretic, spironolactone. It is indicated for the treatment of congestive heart failure, essential hypertension, swelling due to excess fluid retention (edema), liver cirrhosis with ascites, hyperaldosteronism. Frulac is presented in the form of tablet containing spironolactone BP 50mg and frusemide BP 20mg.

Role of Zinc in Intrauterine Growth Retardation (IUGR)

Rafat Nawaz

Introduction

IUGR has great significance as it has ramification on maternal health, fetal well being, neonatal problem and long term infant sequelae. Each year 30 million infants in the developing world are born with IUGR, leading to low weight at birth¹. It is hence important that IUGR should be recognized earlier, the underlying maternal fetal condition should be treated vigorously and it should be ensured that the neonate is not only born alive but also born in good condition. Of the different methods of management of these features, the zinc has got some roles in presenting the development of fetal growth retardation and continuing to maintain the well being of these fetuses.

Definition

The most common definition of IUGR is the weight of the fetus below 10th percentile for gestational age or a birth weight 2nd standard deviation below the mean for gestational age.

Ponderal index is used to identify a neonate who has loss of subcutaneous tissue and muscle mass even though the birth weight is normal for gestation age.

P.I. = Birth weight X 100(crown heel length). A Ponderal index below the 10th percentile indicates IUGR.

Incidence

IUGR affecting 3% to 7% of all deliveries.

Associated mortality and morbidity

Fetal growth retardation is one of the 3 major causes of perinatal death. Associated morbidity are birth asphyxia, neonatal hypoglycemia, hypocalcaemia, polycythemia, meconium aspiration and persistent fetal circulation.

RISK FACTORS OF INTRAUTERINE GROWTH RETARDATION²

Maternal Risk Factors

Anemia, malnutrition, chronic hypertension, cyanotic heart disease, pregnancy induced hypertension, diabetesmellitus with vasculopathy, alcohol, smoking.

Fetal risk factors

Genetic disorders, chromosomal abnormalities, congenital anomalies,

Fetal infections uteroplacental risk factors

Pre eclamsia (PE), placental abruption.

TYPES OF IUGR

Symmetrical IUGR (20% to 30%)

Decreased growth potential, early in gestation, fetus is proportionally small, all biometry is below the 10th percentile for gestational age, ponderal index is normal.

Asymmetrical IUGR (70% to 80%)

Restricted growth usually occurs after 28 weeks, head growth remains normal while abdominal growth slows down, low ponderal index.

Diagnosis

To make the diagnosis the gestational age needs to be known with the greatest possible accuracy.

Clinically

The superficial fundal height (SFH) is used as a gross screening method for IUGR. Uterine size < dates using a cutoff of > 3cm discrepancy detect at best 30% of affected pregnancy. The presence of oligohydramnios is useful in detecting frank IUGR.

Ultrasonogram findings

Placental grade - At term only 20% of placentas are classified as grade 3, and it increases to 45% by 42 weeks. The appearance of this grade 3 placenta prior to 35 weeks has a positive predictive value 59% of IUGR. Other USG findings suggestive of IUGR are elevated FL/AC, small BPD, low estimated fetal weight, decreased amniotic fluid volume and elevated HC/AC.

Doppler blood flow studies

Serial umbilical and uterine blood flow studies are more useful in predicting IUGR. The pulsatility index (PI) is defined as the systolic velocity/ diastolic velocity or S:D ratio. The S:D ratio normally decreases with gestational age. But in IUGR, PI increases. In IUGR there are also decreased diastolic velocity flow and this flow may also be reversed.

Management

Once the IUGR fetus is detected, the pregnancy should be monitored clinically, by regular USG and CTG and if possible by a serial Doppler blood flow studies of uterine and umbilical arteries.

Delivery is advised once the maturity is reached.

Role of Zinc

Zinc is involved in more than 300 enzymes and acts a stabilizer in molecular structure of the subcellular constituents and membranes. Zinc participates in the synthesis and degradation of carbohydrates, lipids, proteins and nucleic acids. It also plays an essential role in the process of genetic expressions.

Fetal growth normally occurs in three phases. In phase-I there is only cellular hyperplasia, and this phase lasts up to 16th weeks of gestation. In phase-II there are both hyperplasia and hypertrophy of cells, and this continues up to 32 weeks. In phase-III there is only hypertrophy and it continues till term.

Zinc deficiency leads to failure of these cells to divide and subsequently impairment of growth occurs. Moreover zinc is essential for normal embryonic development. Deficiency results in malformations of the brain, eyes,

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bones, heart and other organs. The survival of embryo is placed at risk when zinc intake is reduced even for a period of days particularly in the first trimester.³

It has been well known that zinc deficiency in pregnant woman cause fetal growth retardation. Kirksey et al revealed a significant correlation between maternal plasma zinc conc. measured at midpregnancy and birth weight.⁴ Negger et al reported that the prevalence of low birth weight infants was significantly higher (eight times) among women with serum zinc conc. in the lowest quartile in early pregnancy, independent of other risk factors.

An estimated distribution of zinc required by a woman to meet their normal needs during pregnancy of 11.5 ± 1.75 mg/d (based on the US RDA) it can be estimated that 82% of pregnant women worldwide likely to have inadequate intakes of zinc.⁵

From the above point of view the zinc is therefore essential not only for normal embryonic development but also for normal growth of the fetus.

References

1. JAEA Bulletin 43/3/2001
2. Rece EA, Hagay Z, prenatal diagnosis of Deviant Fetal Growth In Medicine of the fetus and Mother 1992. J.P. hippincott Co.
3. Harrison's P491
4. Kirksey A, Wachs TD, Yunis F, et al. Relation of maternal zinc nutrition to pregnancy outer development in an Egyptian village, Am J Clin Nutr. 1994; 60:782-792.
5. Am J clinical Nutrition 1998 - Vo (vol 68 P-500)

A Four Step Program for Nail Fungus

Although nail fungus (onychomycosis) is not a life-threatening disorder, severe cases may cause pain and limit mobility. Fungal infections are particularly problematic for patients with diabetes and circulatory disorders, for they may worsen foot ulcer and further impair blood flow. Even if your main concern is cosmetic-the condition can cause the nail to become thick, discoloured, and unsightly you need to get a handle on fungal growth.

Foots care for good

First, accept that there is no magic bullet for nail infections. You're looking at a chronic condition, and it's going to take some time (it takes atleast a year for diseased nails to grow out and be replaced by healthy ones) and effort to nurture the nails back to health.




1. Wear sensible shoes and cotton socks. Make sure your shoes give feet room to move and breathe, and avoid pointed toes that squeeze your feet. Wear cotton socks and if your feet sweat a lot, change your socks when they are damp. Warm, moist environments are a fungus haven. Don't use the same pair of shoes consecutively.

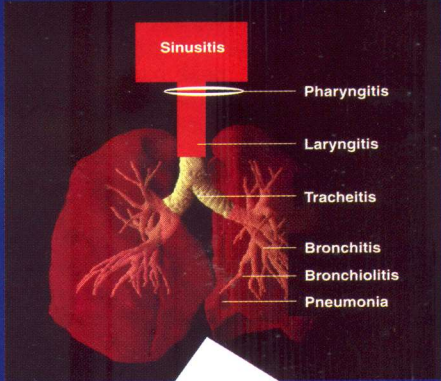
2. Keep your nails maincured. Cut or clip your nails short, File down thickened areas, and carefully scrape fungal debris from under the nails. (To avoid spreading fungus to healthy nails, use different scissors, Clippers, and files on your infected nails.)

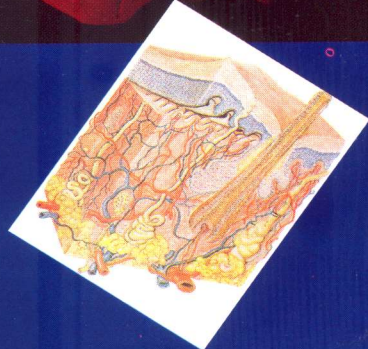
3. Practice Scrupulous Hygiene. Wash your feet and scrub your nails with brush during your daily shower. Dry them well, and spray the soles and areas between the toes with an antiperspirant. Don't go bare foot in locker rooms and other public places.

4. Try and antifungal agent. Apply and OTC antifungal slave to the nails and surrounding skin twice daily, in the morning and again at bedtime. Alternatively, an effective natural antifungal agent is tea tree oil (*Melaleuca alternifolia*), which has been shown to have antiseptic properties.

Source : Health & Nutrition, July, 2002







**Decisive against RTI
and
Skin & Soft Tissue Infections**

Hyperemesis Gravidarum: A Review

Saria Tasnim¹, Abdul Halim²

Nausea and vomiting commonly labeled as "morning sickness" are common symptoms of pregnancy. They can appear within two weeks after a missed period, usually diminish by the 14th week in up to 50% of pregnant women. If it begins after twelve weeks of gestation there may be a medical or surgical cause. If vomiting is of such intensity that it interferes with normal activity it is pathological¹.

Causes of vomiting in pregnancy

Early pregnancy

- ❖ Morning sickness
- ❖ Hyperemesis gravidarum
- ❖ Associated causes

Late pregnancy

- ❖ Severe PET
- ❖ Urinary tract infection
- ❖ Acute hydramnios

Hyperemesis gravidarum is defined as excessive vomiting and nausea occurring before 20th week of gestation. The vomiting is intractable, occur irrespective of food and severe enough to require hospitalization.² It is complicated by weight loss, dehydration, ketonuria sometimes by serious psychological disturbances. Hyperemesis can lead to severe maternal malnutrition and threaten fetal well being.

Epidemiology of Hyperemesis

The condition was described as early as 2000 BC. In a Epidemiological study 70% of all pregnancy were associated with nausea, in 91% of the case the onset was during first three months.³ This has a tendency to recur. It has been found that there was no difference of intensity, peak nausea or time of onset in successive pregnancy, however the duration decrease. There is a strong correlation between nausea and tolerance of oral contraceptives.⁴ Study have shown that offspring of women hospitalized for hyperemesis have higher proportion of females than do all mothers.⁵ It is more common in primigravida.

Incidence

Although nausea and vomiting are second most common symptom of pregnancy, the incidence of hyper emesis is 0.3%.⁶

Causes

It is not clear It appears that hyperemesis has complex interaction of biological, psychological and socio cultural factors.

Associated factors are the following

1. Vitamin B₆ deficiency: due to change in protein metabolism.
2. Hyperthyroidism: found in 70% of patients with hyperemesis, Human Chronic Gonadotrophin (hCG) is not directly involved in the a etiology of hyperemesis but indirectly by its ability to stimulate the thyroid.⁷
3. Psychopathologic and emotional factors. It has been observed that hyper emesis improves after hospitalization,

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4. being away from home environment.
4. Hyperplacentosis: A condition of heightened trophoblastic activity is characterized by increased placental weight and hCG level. Hyperplacentosis is regarded to be associated with hyperemesis⁸
5. Hypersensitivity reaction.
6. Poor nutrition
7. Sex steroid imbalance - Progesterone deficiency and estrogen excess often implicated and there may be adrenal and pituitary dysfunction. However, evidence shows there is no hypo function of anterior pituitary gland. It has been found that nausea and vomiting in early pregnancy is associated with lower cortisol and progesterone and high hCG but vomiting in late pregnancy had lower testosterone and hCG but higher dehydroepiandrosterone.
8. Other factors proposed are tissue polypeptide antigen, high LDL and VLDL, low HDL, gall bladder disease and ovulation from right ovary⁹.

Patho physiology

Pregnancy is associated with gut disturbances. These include delayed gastric emptying, reduced esophageal sphincter pressure, decreased gall bladder motility with increased gut transit times. The changes result from inhibitory action of progesterone on the gut which contribute to vomiting. However it is difficult to reconcile the decline of pregnancy sickness after first trimester and the increase of progesterone.

Clinical Feature

There is inability to retain food and fluid

- ❖ Intractable vomiting
- ❖ Dehydration
- ❖ Dry and coated tongue
- ❖ Skin turgor decrease
- ❖ Acetone breath and ketonuria
- ❖ Significant weight loss
- ❖ Jaundice and various palsy may supervene
- ❖ Metabolic acidosis

If weight loss greater than 5% of pre pregnant weight of the patient it is associated with poor fetal growth and outcome.

Biochemical

- ❖ Plasma Na ↓ K ↓ Cl ↓
- ❖ Urea ↑
- ❖ Hypokalaemia
- ❖ Alkalosis
- ❖ Urine volume ↓ may contain albumin and bile, chloride is absent

Pathology

The changes are generalized manifestation of starvation and severe malnutrition

- ❖ Liver: Centrilobular fatty infiltration
- ❖ Kidney: Fatty change in proximal convoluted tubule
- ❖ Heart: Subendocardial hemorrhage
- ❖ Brain: Small hemorrhage in hypothalamic area
- ❖ Wernick's encephalopathy (apathy, restlessness, sleeplessness, convulsion and coma)
- ❖ Korsakoff psychosis: (Confusion, loss of memory)

Differential Diagnoses

- ❖ Hydatidiform mole
- ❖ Multiple pregnancy
- ❖ Gastroenteritis
- ❖ Cholecystitis
- ❖ Peptic ulcer
- ❖ Twisted ovarian tumour
- ❖ Intestinal obstruction

Estimation of energy requirement

- ❖ Determine age, median ideal body weight, nature of physical activity, pathophysiologic state, composition of the diet. Energy requirement is calculated from following formula
 - ❖ TEE= BEE+ TEF+ allowance for pathologic state
 - ❖ BEE= 0.95 Kcal /Kg of IBW (ideal body weight) hr x24 hr
 - ❖ TEF= 6-10% of BEE
- (IBW = Ideal body weight, TEE = Total energy expenditure, BEE = Basal energy expenditure, EES = Energy expenditure during sleep
TEF = Total energy factor)

Expected provision of energy from different of nutrients

Carbohydrate 50% - 60% of total energy	Protein (0.8gm/kg is considered as a safe ration) 10% - 15 % of total energy
Fat 25% - 30% of total energy	Vitamins and minerals 50 - 100 mg (Vegetable 200 - 400 g/ day)

Management

Principle is prevention of dehydration and starvation

- ❖ To record pulse, BP, temperature, respiration, weight on admission and daily weight measurement
- ❖ Estimation of electrolytes, BUN, glucose, creatinine routinely as well as periodically
- ❖ Parenteral nutrition - Maintenance with recommended dietary allowance of carbohydrate, amino acid, fat emulsions, vitamins (B-complex, C) and trace elements. Traditionally parenteral therapy is done. Study have shown women nutritionally supported with parenteral therapy have longer hospitalization with increased incidence of venous thrombosis, cellulitis, line sepsis, bacterial endocarditis and pneumonia¹⁰.
- ❖ Gastric rest by not allowing oral intake. Enteral nutrition by self propelling, blind placed nasojejunal tube is recommended as an alternative to parenteral therapy. This is well tolerated, cost effective with less complication and can be maintained at home¹¹.
- ❖ Antiemetics
- ❖ Mild sedatives
- ❖ Psychiatric consultation, isolation from family may be helpful
- ❖ H₂ blocker (cimetidine), proton pump blocker (Omeprazole) may be used
- ❖ Corticosteroids may be used Subcutaneous metadopramide are recommended.
- ❖ Nutritional assessment should be done. Antiemetics or mild sedatives, IM promethazine. (Phenergan 25-50 mg), orally Phenobarbitone one hour before meal and bed time.
- ❖ Vitamin B complex, Vitamin C, B₆, (100 mg), added to IV saline, may be useful. small sips of water 30 ml many be initiated.
- ❖ Then small frequent meals, consisting of dry and easily digested , foods fruit drinks tea and milk liquid to semisolids (e.g boiled egg, cooked, cereals, toast, dry crackess).
- ❖ One study identified that steroid therapy promotes non significant improvement of nausea and vomiting but reduce dependence on IV fluid, improve sense of well being and appetite.
- ❖ Oral ginger effective. A randomized placebo controlled trial has shown that oral ginger 1g/ day for 4 days is effective for relieving the severity of nausea and vomiting

of pregnancy¹².

- ❖ Small sips of water 30 ml hourly may be initiated
- ❖ Small frequent meals consisting of dry and easily digested food, fruit drinks, tea, milk to semisolids (boiled eggs, cereals, toast, dry crackers)
- ❖ Avoid recumbent position after food, use extra pillow during sleep, take fluid between meals
- ❖ Discourage the intake of plain water if vomiting is prolonged. Instead, encourage the frequent intake of small volumes of fluids containing electrolytes.
- ❖ Alter physical environment as much as possible to lessen stimuli for nausea (eg, remove sources of unpleasant odors).
- ❖ Promote bed rest when vomiting is severe; avoid quick movements because they often make nausea more severe.
- ❖ Monitoring needs of patients with hyperemesis gravidarum include daily weights, fluid intake and output, vital signs, and laboratory measures of electrolytes and general metabolic status (including potassium, sodium, BUN, glucose, and serum creatinine levels).

Termination of Pregnancy

The indications are

- ❖ A steady deterioration inspite of therapy
- ❖ Rising pulse rate of 100/ minute or over
- ❖ Temperature persistantly above 100.4°F
- ❖ Gradually increasing oliguria and proteinuria
- ❖ Appearance of jaundice
- ❖ Appearance of neurological manifestations

Complication

Wernicke's encephalopathy - an unusually fatal medical emergency due to thiamine deficiency can be found in patients with prolong hyper emesis .¹³

Conclusion

Hyperemesis is a disease that exist as a potential threat to maternal well being during pregnancy. Early recognition and prompt intervention could prevent the complication and ameliorate maternal suffering quickly.

References

1. D. Keuth Edmends ed. *Dewhurst's text book obstetrics and Gynecology for postgraduates*. 6th edition. Blackwell science ltd. UK. 1999.
2. Norma M mitheny ed. *Fluid and Electrolyte balance*. 4th edition 2000, Lippincott Williams and wilkins
3. Jarnfelt Samsioe A, Nausea and Vomiting in pregnancy; A review 1987 Jul, 42 (7): 422 - 7). *Obstetrical and Gyneological survey*.
4. Jarnfelt Samasioe A; Samsio G; Velinder G M, nausea and vomiting in pregnancy a contribution to its epidemiology. *Gynecologic and obstetrical investigation* 1983 16(4) 221-9.
5. Del Mar melaro - montes M, Jick H. Hyperemesis Gravidarum, Sex of the offspring. *Epidemiology* 2000 Jan 12 (1): 123 - 124.
6. Alain Borgeat, Marc Fathi Antonella valition. Hyperemesis gravidarum : It serotonin implicated? *Am S Obstet Gynecol* 1997; 176: 476-7.)
7. Panesar NS, LICY, Rogers MS. Are thyroid hermunus or HCG responsible for hyperemesis Gravidarums. *Acta obstet Gynecol Scand* 2001 June; 80 (6) 519- 24
8. Ginsberg j, Lewanczuk RZ, Honore LM. *Thyroid* 2001 April: 11 (4): 393 - 6.
9. Ylikorkala O, Kauppila A, Haapalahti J Fallicle stimulating normal thyrotropin, human growth hormone and prolactin in hyperemesis gravidarum. *British Journal of Obstetric and Gynaecology* 83 (7): 528 - 533 July 1976.
10. Folk JJ, Leslie HF, *Hyperemesis Gravidarum: Pregnancy outcomes and complications among women nutritionally supported with and without parenteral therapy*. *Obstet Gynecol* 2001 Apr, 97 (4 supp 1), 542.
11. Pearce CB, Callett J.G Oggen PM, Dunca, MD. Enteral nutrition by nasojejunal tube in hyper emesis gravidarum.
12. Vayavanich T, Kraissarin T, Rwangsi RA. *Ginger for nausea and vomiting in pregnancy: randomized double: randomized double musked, placebo - control trial*. *Obstetrics and Gynecology* 2001 April,97(4): 577 - 82.
13. Tan JH, KH, Wernicke's encephalopathy in patients with hyperemesis gravidarum *Singapore Med J* 2001 Mar: 42 (3): 124 - 5.

IMAGING - An Essential Diagnostic Tool in the Field of Obstetrics and Gynecology

M. Ishaque Akhand

Introduction

In the practice of obstetrics and gynecology, among the imaging investigations, ultrasonography is the most important diagnostic tool. Dr. Ian Donald of Glasgow pioneered the application of ultrasound in obstetrics in the mid-1960s. Since then, ultrasound has had a tremendous impact on obstetrical management of many pregnant patients to the point where obstetrics cannot really be practised without high quality sonography.¹

Obstetrics application of ultrasonography

Common Indications for obstetrics sonography²

01	Estimation of gestational age.
02	Confirmation of intrauterine pregnancy and viability.
03	Diagnosis of ectopic pregnancy.
04	Evaluation of complicated early pregnancy.
05	Detection of fetal anomalies.
06	Guidance for amniocentesis, chorionic villus sampling, cordocentesis.
07	Detection of placenta previa, abruptio placenta.

Early pregnancy (first trimester)

The normal non pregnant uterus at transabdominal scanning is shown as an egg-shaped structure, larger at the fundus, and lying directly behind the distended bladder. All pelvic ultrasound examinations should be conducted with the bladder well distended, as this displaces gas-containing bowel and allows uninterrupted access of the ultrasound beam to the uterus lying behind the bladder.

In early pregnancy the uterus enlarges and a gestation sac can be identified as early as 5-6 weeks after the first day of the last menstrual period. Transvaginal scanning can identify the sac as early as 4 weeks. It appears as a cystic area with a rim of high intensity echoes. By 10th weeks the sac has enlarged to occupy most of the uterine cavity. The developing embryo or 'fetal node' can be identified from the 6th or 7th week and the fetal head at 14 weeks. Multiple pregnancy can also be identified at an early stage by the presence of two or more gestation sacs.

The fetal heart beat can be identified soon after the fetal node is seen and must always be looked for as evidence of a live fetus.³

The crown rump length of the fetal node can be measured accurately by electronic calipers between the 7th and 14th weeks of pregnancy and assessed against the normal standard. In a normal pregnancy the

measurement can predict maturity with considerable accuracy. GS volume can also be measured by USG but is less accurate in assessing maturity.

Abnormalities of early pregnancy

Missed abortion accounts for nearly half the cases of early pregnancy failure. At ultrasound the fetal heart rate can be detected with real-time scanning. It is important to realize that even with a dead fetus it is still possible to have a positive pregnancy test as the trophoblast can continue to function.

An embryonic pregnancy is almost as common as missed abortion. The diagnosis is made in those pregnancies in which the gestation sac cannot be shown to contain a fetus either in ultrasound or in the aborted products of gestation. Apart from this absence of a fetal node and fetal heart beat the gestation sac is 'small for dates' at ultrasound.

Live abortion is defined as early (before 12th week) or late (after 12th week). The early group may show a low gestation sac volume at ultrasound but appearances may be normal even a few days before abortion.

Hydatidiform mole is rare in Europe (about 1 in 2000 pregnancies) but commoner in Bangladesh. In ultrasound the uterus is large for dates. No fetal parts or fetal heart beat can be detected, and the uterus is full of multiple fine echoes. The patients have high gonadotrophic levels in the urine.

Ectopic pregnancy

This may be unruptured in which case the gestation sac is identified in an extra-uterine location and a fetal node and fetal heart beat are identified with it, or it may be ruptured in which case the extra-uterine sac is associated with a complex hematoma mass. In both cases the uterus is enlarged and contains a mottled pattern but no gestation sac. Diagnosis of the adnexal mass can be difficult and in some cases may require laparoscopy.

Mid and late pregnancy (second and third trimesters)⁴

18 to 20th weeks is a good time to perform routine examination of pregnancy by ultrasound. This should document:

Fetal age

Various parameters can be used for assessing fetal age

1. Biparietal diameter of the skull (BPD)
2. Femoral length (FL)
3. Head circumference (HC)
4. Abdominal circumference (AC).

The BPD is perhaps most widely used and is measured on a transverse axial image of the skull at its widest diameter. Femoral length is also randomly used after 20 week to term.

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Amniocentesis, chorionic villous sampling and fetal blood sampling are invasive procedure which are being increasingly used for genetic screening. They all require ultrasound control for success, and carry a risk of fetal loss or damage.

Fetal Abnormalities

Many congenital abnormalities of the fetus can now be recognized in utero by ultrasound screening. In many cases these can be recognized sufficiently early for therapeutic termination to be a realistic possibility where this is considered desirable.⁵

These includes

Neural tube defects : Such as anencephaly, spina bifida, Encephalocele, hydrocephalus.

In Thorax : congenital heart disease (CHD), congenital diaphragmatic hernia (CDH).

Abdomen

Abdominal wall defects leading to omphalocele or gastroschisis, duodenal atresia, ascites and other anomalies, renal agenesis (Potter's syndrome) infantile renal polycystic disease, dysplastic kidneys. Fetal hydronephrosis.

Hydrops fetalis due to isoimmunisation from foeto-maternal blood group incompatibility.

The sonographic features include

1. Polyhydramnios.
2. Increased placental thickness
3. Skin thickening
4. Ascites, pleural and pericardial effusion.

The placenta

The placenta is easily identified by ultrasound and its site is always noted at routine examination . Localisation is particularly important in:

1. Anterpartum hemorrhage (placenta previa, abruptio placentae)
2. Amniocentesis.

MRI

There is as yet no experimental or other evidence that MRI is harmful to the fetus but both the National Radiation Protection Board in the UK and the Food and Drugs Administration in the USA recommend that it should not be used in the first trimester.

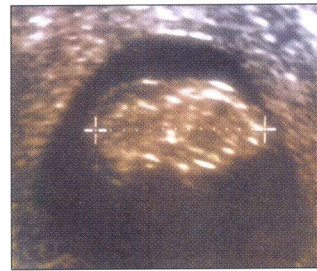
GYNAECOLOGICAL IMAGING

Ultrasound

Ultrasound of the female pelvis is now the primary imaging investigation in many gynecological problems. Most cases are examined by transabdominal scanning, but transvaginal scanning can provide better detail in selected cases as can transrectal scanning in elderly patients.

IUCDs. These are readily identified by ultrasound as a strong linear echo or a row in punctate echoes within the uterine cavity, sometimes with acoustic shadowing.⁷

Ovarian function: The normal ovaries can usually be identified as small ovoid structures lateral to the uterus and hypoechoic to the surrounding pelvic fat.



USG Study of 1st trimester pregnancy measuring CRL



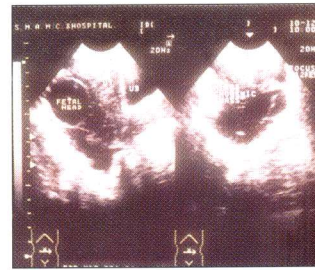
USG Study showing early Twin pregnancy

During the menstrual cycle the development of a dominant follicle can be observed by ultrasound.

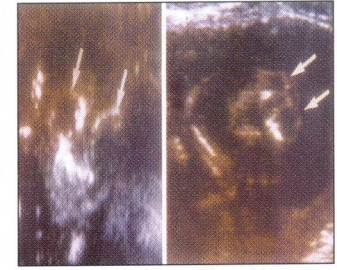
Enlarged ovaries with multiple cysts may be seen in the Stein-Leventhal syndrome (amenorrhoea, infertility, hirsutism and obesity).

Pelvic masses¹⁰

Uterine fibroids are the commonest female tumour, occurring in 20% of females above the age of 30. The sonography shows enlarged uterus with a focal uterine mass of hypo- or hyper-echoic features. Calcification is markedly hyper-echoic.



USG Study Showing Fetus in the Rt. adnexal region (ectopic pregnancy)



Anencephaly in two different fetuses showing no brain but prominent orbits

Uterine carcinoma both endometrial and cervical, is best assessed by CT or MRI which are also valuable in staging. Primary diagnosis is rarely made by ultrasound but it can demonstrate the tumour mass and help in staging and in monitoring the results of treatment.

Ovarian masses are often cystic. They include cystadenoma, cystadenocarcinoma, dermoid, teratoma and other rare tumours.

Cystadenomas at ultrasound usually appear as thin walled cysts. These can become very large giving rise in extreme cases to the sonographically 'empty abdomen'

CT and MRI

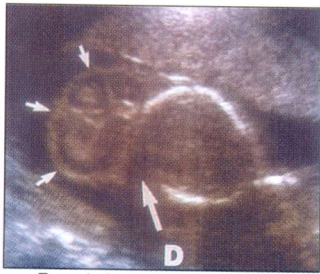
CT is now widely used in the further assessment of pelvic and abdominal tumours and is particularly valuable in the staging of malignant tumours. MRI is probably more accurate than CT in the staging of uterine carcinomas, particularly cervical carcinoma, but ovarian carcinoma is better staged by CT.

Plain Radiography

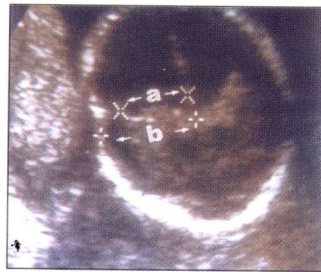
Simple X-rays of the pelvis can be helpful in the diagnosis and differential diagnosis of some pelvic masses in the female. Such as calcified fibroid, ovarian dermoid etc. Apart from simple X-rays the only other X-ray technique still widely used for the investigation of gynecological problems is salpingography.

Hysterosalpingography⁹

Hysterosalpingography is most widely used in the investigation of sterility. The investigation is obviously

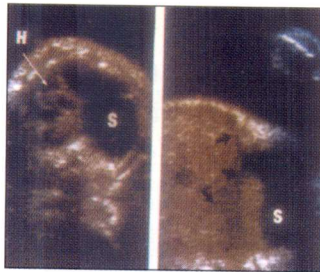


Encephalocele with visible sulci



USG study of fetal head showing Ventriculomegaly

contraindicated in the presence of pregnancy, severe hemorrhage or active infection. Salpingography is performed in the X-ray department and is best done by the radiologist and gynecologist in cooperation. The normal



USG shows congenital diaphragmatic hernia (abdominal viscera herniating into thorax)

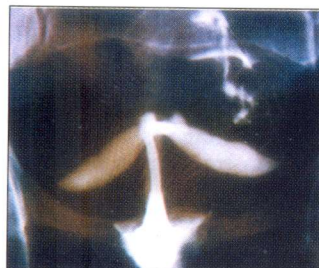


Plain X-ray of female pelvis showing calcified fibroid

hysterosalpingogram shows the uterus as an inverted triangular shadow and the tubes as fine sinuous lines extending out from the cornual angles.



Normal Hysterosalpingogram showing fallopian tubes & free spillage of contrast into peritoneal cavity



Hysterosalpingogram Shows congenital uterine defect (Uterus bicornis unicollis)

In cases of sterility normal appearances may be shown with a free spill into the peritoneum and a local mechanical cause may thus be excluded. In these normal



USG shows Tubo-ovarian abscess having collection within FT



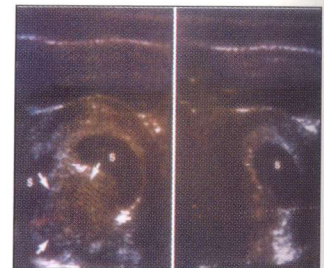
USG study showing Krukenberg tumour arising from ovary

cases the prognosis is fair and in one series about a third of the patients subsequently became pregnant. It has even been postulated that salpingography had a therapeutic effect in some of these patients by clearing

adhesions. On the other hand the salpingogram may show a definite cause for sterility such as blockage of both tubes or the presence of bilateral hydrosalpinx. Congenital anomalies of the uterus such as bicornuate or



USG showing large Dermoid having Dental elements



Fibroid Uterus distorting gestational sac

infantile uterus may be seen, or gross anomalies such as uterus didelphys may be diagnosed.

Conclusion

For Proper diagnosis and management of obstetrics and gynecological cases Imaging is the utmost important investigation just next to clinical examinations. So the latest Knowledge about different Imaging modalities such as Ultrasonography, CT scan, MRI etc. play a key role in the diagnosis and management of Obstetrics and Gynecological patients.

References

1. Fleischer A, Goldstein R, Bruner J 1993 Doppler sonography in obstetrics. In: Callen P (ed.) *Ultrasonography in Obstetrics and Gynecology*. 3rd edn. Saunders, Philadelphia.
2. Platt L D 1988 New look in ultrasound: The vaginal probe. *Technology* 99-101.
3. O'Brien W D Jr 1991 Ultrasound bioeffects related to obstetrical sonography. In: Fleischer A, James A E, Romero R, Manning F, Jenty P (eds) *The Principles and Applications of Ultrasonography in Obstetrics and Gynecology*. 4th edn. Appleton and Lange, Norwalk, CT.
4. Ewigman B C, Crane J P, Frigoletto F D, LeFevre M L, Bain R P, Mc Nellis D, RADIUS Study Group 1993 Effect of prenatal ultrasound screening on perinatal outcome. *New Engl J Med* 12:821-827.
5. National Institute of Child Health and Human Development 1984 Report of a Consensus Development Conference: *Diagnostic Ultrasound Imaging in Pregnancy: Statement*, NICHD, Washington, DC.
6. Bree R L, Edwards M, Bohm-Velez M, Beyer S, Roberts J, Mendelson E B 1989 Transvaginal sonography in the evaluation of normal early pregnancy: a prospective evaluation of normal early pregnancy: Correlation w

When Dose Life Begin ?

Many Internationally known geneticists and biologists have testified that human life begins at conception. In 1981 (April 23-24) a Senate Judiciary subcommittee held hearings on the very question : When does human life begin ? Following are testimonies from two of the doctors who testified :

1. Dr. Hymie Gordon, Chairman of the Department of Genetics at the Mayo Clinic, said: "By all the criteria of modern Molecular Biology, Life is Present from the moment of conception.

2. Dr. McCarthy de Mere, a medical doctor and law professor at the University of Tennessee, testified: "He exact moment of the beginning of personhood and of the human body is at moment of conception".

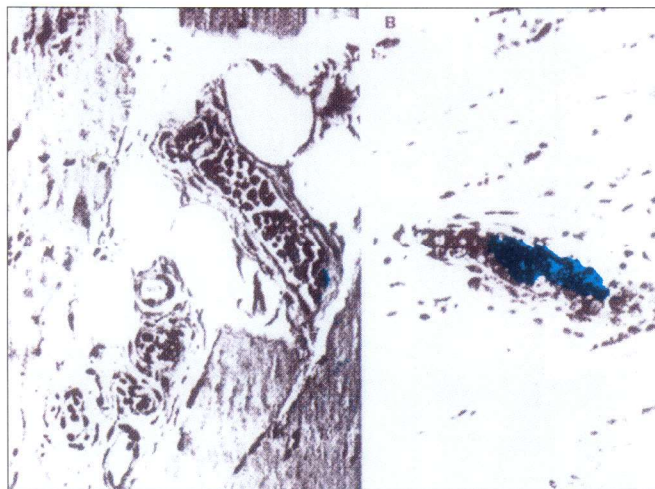
Source : www.prolife.com/FETALDEV.html

Case Report: Fever and Anasarca

V Acha Arrieta, JM Casas Fernandez de Tejerina, S Etxeberria, F Garcia, Bragado

A 51-year-old woman complained of persisting fever, malaise, and myalgia in October, 2000. She was admitted to hospital in December, 2000, and had tests for fever of unknown origin: a full blood count, serum urea and electrolytes, blood and urine cultures, serological tests for antibodies to *Brucella* spp, syphilis, *Coxiella burnetii*, toxoplasmosis, HIV, hepatitis C and B, and cytomegalovirus. A Mantoux test, chest radiography abdominal ultrasound, echocardiogram, thoracic and abdominal computed tomography showed no abnormalities. A ⁶⁷Gallium full-body scan showed increased pulmonary uptake. She was given a presumptive diagnosis of sarcoidosis, but was not treated, as her fever resolved spontaneously. In January, 2001, the fever returned and she developed leg pain and weakness, and was admitted to our hospital.

She was febrile and had generalized oedema. On neurological examination we found weakness and areflexia of both legs with bilaterally diminished pin-prick sensation. She had an erythrocyte sedimentation rate of 91mm, lactate dehydrogenase 1655 U/L, albumin 271 g/L, and C reactive protein 114 mg/L. We repeated the previous set of tests and did spinal radiographs, computed tomography, and magnetic resonance imaging. We did a lumbar puncture and analysed the cerebrospinal fluid, but could find no significant



Light microscopy of muscle biopsy specimen

- (A) Neoplastic lymphoid cells in a small artery of skeletal muscle.
(B) CD20 positive surface of intravascular cells.

abnormalities. Electromyography showed lumbosacral polyradiculopathy, most prominent at the right S1 segment. The patient developed anasarca and ascending paraparesis with sacral and autonomic involvement. She became comatose and was transferred to the intensive care unit. A muscle biopsy showed intravascular

occlusion by neoplastic lymphoid cells with large and hyperchromatic nuclei. These cells were strongly positive for CD20 antibody indicating a B-cell lineage. We started chemotherapy with cyclophosphamide, vincristine, adriamycin, and prednisolone. The coma and anasarca resolved. Complete remission was achieved after six courses of biweekly therapy. We did an autologous bone marrow transplant in July, 2001, and when last seen in January, 2002, she could walk alone with a stick. Although she still had radicular right leg pain.

Neoplasia accounts for 20% of fevers of unknown origin, and a half of these are to lymphoma.¹

Intravascular lymphoma is a rare variant of non-Hodgkin lymphoma, in which large neoplastic lymphocytes occlude the small vasculature. Selective intravascular growth may be due to lack of expression of CD29 and CD54 molecules in neoplastic lymphocytes.² Neurological signs may cause multifocal cerebrovascular events, subacute encephalopathy, spinal cord and root symptoms, and peripheral or cranial neuropathies.³ Our patient's polyradiculopathy developed into a subacute conus medullaris and cauda equina syndrome. Anasarca reported in this case is an unusual symptom of non-Hodgkin lymphoma⁵ and intravascular lymphoma, caused by vascular or lymphatic occlusion. The diagnosis is confirmed by biopsy of symptomatic or swollen tissues. Muscle biopsy seems a safe and useful alternative in intravascular lymphoma with neurological signs.

References

1. Glass J, Hochberg FH, Miller DC. Intravascular lymphomatosis. A systemic disease with neurologic manifestations. *Cancer* 1993; 71: 3165-64
2. Estalilla OC, Koo CH, Brynes RK, Medeiros LJ. Intravascular large B-cell lymphoma. A report of five cases initially diagnosed by bone marrow biopsy. *Am J Clin Pathol* 1999; 112: 248-55.
3. Jillella AP, Day DS, Severson K, Kallab AM, Burgess R. Non-Hodgkin lymphoma presenting as anasarca: probably mediated by tumor necrosis factor alpha (TNF- α). *Leuk Lymphoma* 2000; 38: 419-32.
4. Suzumiya J, Oshima K, Kanda M, et al. Intravascular large cell lymphoma associated with hypoalbuminemia. *Leuk Lymphoma* 2000; 32: 179-82.
5. Nakahara T, Saito T, Muroi A, et al. Intravascular lymphomatosis presenting as an ascending cauda equina: conus medullaris syndrome: remission after biweekly CHOP therapy. *J Neurol Neurosurg Psych* 1999; 67:403-06.

Source : The Lancet. Vol 359. May 18, 2002. www.thelancet.com

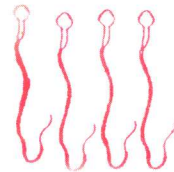
Medical Science in the light of Islam

التطور الإنساني كما ذكر في القرآن

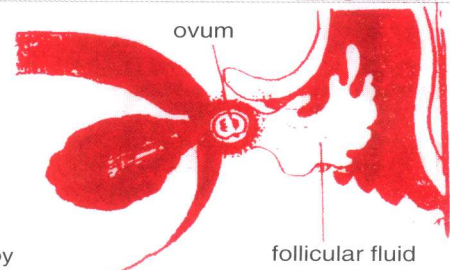
HUMAN DEVELOPMENT AS DESCRIBED IN AL-QUR'AAN-REVEALED 1400 YEARS AGO

Man We did create from a quintessence (of clay); Then We placed him as a (drop of) sperm in place of rest, firmly fixed.

Al- Qur'aan 23: 12,13



The male **NUTFAH**- sperms. Each sperm has an oval, slightly pointed head, short body and whiplash tail. Spermatic liquid (Semen) is formed by various secretions from: the testicles seminal vesicles, prostate gland and the Cooper's gland.



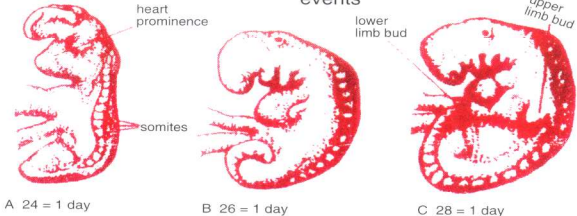
The Female **NUTFAH**. An ovum with its associated follicular fluid

Then We made the sperm into a leech-like congealed blood (Clot) ; Then of the clot We made a lump (Fetus) ;

Al- Qur'aan 23: 14

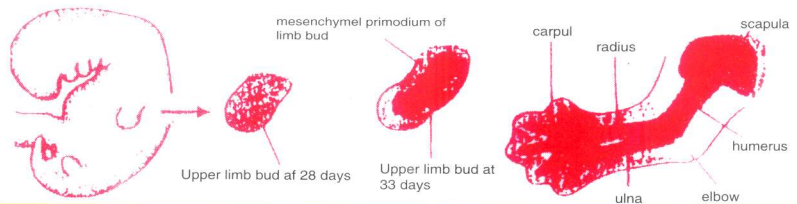


This **QUICK** change is described in the Qur'aan by using the conjunction **FA** which in Arabic indicates a quick sequence of events



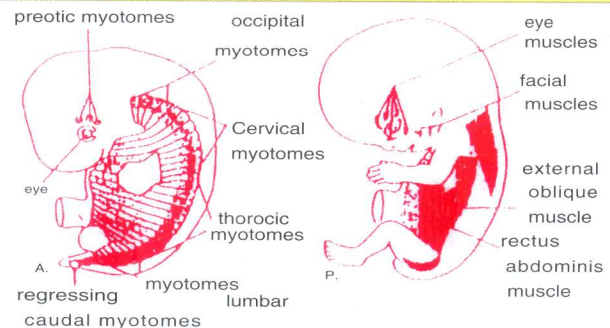
Then We placed out of that lump bones and clothed the bones with flesh;

Al- Qur'aan 23:14



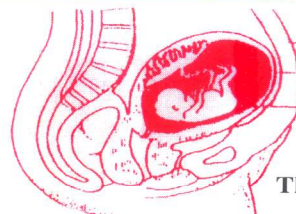
We developed out of it another creature so blessed be Allah, the best to create.

Al-Qur'aan 23:14



He makes you, in the wombs of your mothers, in stages, one after another, in three veils of darkness. Such is Allah, your Lord and Cherisher

Al- Qur'aan 39:6



- (1) the maternal abdominal wall
- (2) the uterine wall
- (3) the amnio- chorionic membrane

These three anatomical layers protect the embryo from external injury

AL- QALAM

Compiled by Z.M. Khalid.

AL- QALAM
32/A, 1/1 MIATHIYA MAWATHA DEHIWELA
SRILANKA TEL. CONTACT NO. 71-4031

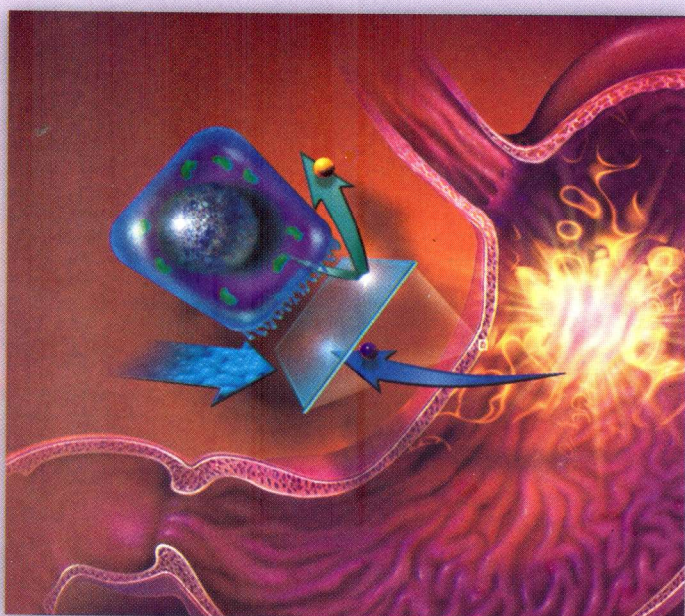


AL- QALAM

To be Continued from the Page No. 9

8. Peters H, Fischer U, Reiners C, Schleusener H. Radioiodine therapy of Graves' hyperthyroidism: standard vs. calculated ¹³¹iodine activity. Results from a prospective, randomized, multicentre study. *Eur J Clin Invest*. 1995 Nov;25 (11):883-884.
9. Bringmann IM, Van Leeuwen BL, Hennemann G, Beckett GJ, Toft AD. Outcome of treatment of hyperthyroidism. *J Endocrinol Invest* 1999 Apr; 22(4): 250-256.
10. Allahabadia A, Daykin J, Sheppard MC, Gough SC, Franklyn JA. Radioiodine treatment of hyperthyroidism-prognostic factors for outcome. *J Clin Endocrinol Metab* 2001 Aug; 86(8): 3611-3617.
11. Clerc J, Izembart M, Dagousset F et al. Influence of dose selection on absorbed dose profiles in radioiodine treatment of diffuse toxic goiters in patients receiving or not receiving carbimazole. *J Nucl Med* 1993 Mar; 34(3) : 387-393.
12. Nagayama Y, Ashizawa K, Matsuo K, et al. Radioiodine (¹³¹I) therapy of Graves' disease: use of the new high resolutional ultrasonic scanner for the determination of the accurate weight of the thyroid gland. *Endocrinol Jpn* 1989 Jun; 36(3) : 359-365.
13. Tsuruta M, Nagayama Y, Yokoyama N, Izumi M, Nagataki S. Long-term follow-up studies on iodine-131 treatment of hyperthyroid Graves' disease based on the measurement of thyroid volume by ultrasonography. *Ann Nucl Med* 1993 Aug; 7(3): 193-197.
14. Pineda P, Michelsen H, Rivera M et al. Treatment of hyperthyroidism with radio-iodine: effects of administered dose on complication and thyroid function. *Rev Med Chill* 2000 May;128(5):499-507
15. Nygaard B, Hegedus L, Gervil M, et al. Influence of compensated radioiodine therapy on thyroid volume and incidence of hypothyroidism in Graves' disease. *J Intern Med* 1995 Dec; 238(6): 491-497.
16. Glinoe D, Verelst J. Use of ¹³¹iodine for the treatment of hyperthyroidism in adults. *Ann Endocrinol (Paris)* 1996; 57(3): 177-185.
17. Tavintharan S, Sundram FX, Chew LS. Radioiodine ¹³¹I therapy and the incidence of hypothyroidism. *Ann Acad Med Singapore* 1997 Jan; 26(1): 128-131.
18. Pauwels EK, Smit JW, Slats A, Bourguignon M, Overbeek F. Health effects of therapeutic use of ¹³¹I in hyperthyroidism. *Q J Nucl Med* 2000 Dec; 44(4): 333-339.
19. DeGroot LJ, Manglabruks A, McCormick M. Comparison of RA ¹³¹I treatment protocols for Graves' disease. *J Endocrinol Invest* 1990 Feb; 13(2): 111-118.
20. Utiger RD. The thyroid: physiology, hyperthyroidism, hypothyroidism, and the painful thyroid. In: Felig P, Baxter JD, Broaddus AE, Frohman LA, eds. *Endocrinology and metabolism*, 2nd edition. New York: McGraw Hill Co., 1987: 473-507.

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Are all Free Radicals Destructive ?

No. In fact, your body needs them to function. For example, you need free radicals to oxidize glucose and fat. The process is a form of combustion, similar to burning a log in a fireplace. Your body also uses free radicals to keep you healthy. For instance, white blood cells destroy bacteria or virus infected cells by attacking them with a burst of free radicals. Additionally, your immune system uses free radicals to destroy cancerous and other abnormal cells. However, most people have more free radicals than they need. That's why it's important to get protection from antioxidants.

Should I try to Neutralize all my Free Radicals ?

You can't, and you certainly wouldn't want to. Because free radicals help glucose, your body's fuel, you'd die if you were to stop this process. The antioxidants produce initially balance out the free radicals you produce, but after age 27, according to Harman, the rate of harm outpaces your body's ability to repair itself.

However, scientific evidence strongly suggests that taking antioxidants can slow free radical damage, reducing your risk of diseases and perhaps adding a few healthy years to your life, says Packer. Antioxidants may also thwart the impact of manmade sources of free radicals, like air pollution and fried foods.

Medi News

News from Internet / Journals

Kussmaul's sign

Kussmaul's sign is a reversal of the Normal pattern of decreasing Jugular venous pressure during inspiration. As Kussmaul wrote in 1873, "the Jugular veins became considerably swollen" and "by each inspection, a slight increase of its contains could be noted." In patients with Kussmaul's sign, Jugular venous pressure paradoxically rises with inspiration. In a series of 135 patients with constrictive pericarditis at the Mayo Clinic, Kussmaul's sign was noted in 21% of patients (pulsus paradoxus was recorded in 19%). Kussmaul's sign may also occur in right-sided heart failure, right ventricular infarction and tricuspid stenosis.

The mechanism is different from that of pulsus paradoxus. During normal inspiration, contraction of the diaphragm increases abdominal pressure which may have variable effects on the gradient for venous return. During constructive pericarditis, the increased abdominal pressure increases systemic venous return from the engorged splanchnic bed. Because the right ventricle is non-compliant, the right atrial pressure rises more than the fall in pleural pressure, leading to distension of the neck veins with inspiration.

Adolf Kussmaul

Adolf Kussmaul was born on Feb 22, 1822, the oldest of seven children. Both his grandfather and father were physician, and his mother was the daughter of the owner of a glass factory in Wurzburg. Adolf spent his childhood in a several places in Germany, including Boxberg, wertheim, wiesloch and Heidleberg.

After completing his preparatory education, he attended lectures at the University of Heidelberg in 1840. The medical school at Heidelberg, One of the premier medical schools of the time, was soundly based on scientific principles. After Kussmaul graduated in 1845 and passed the stat medical examination in 1846, he was able to claim the exam: Arzt (physician), Wundarzt (surgeon), and Hebarzt (obstetrician). As a new physician, Kussmaul had at his disposal three common therapeutic manoeuvres: purgation phlebotomy, and emesis. On bloodletting, Kussmaul writes in his 1899 memoirs that "it is largely dispensable, where it earlier seemed to be imperative, but its omission in certain circumstances can cause the patient's death which no other method would have so certainly prevented". In these memoirs, he also recalls having "taken emetics at least eight or nine times, not only in my youth, but also in maturity, the last time in 1864." Ironically Kussmaul himself developed pericarditis as a result of "acute articular rheumatism" during the winter of 1846-47. His pericarditis was treated by placing a cold pack on his heart, whereas the rheumatism was treated with daily sponging of the joints with potassium hydroxide.

In 1847, Kussmaul had the opportunity to visit the Vienna Medical Institute, where he was impressed by Skoda, who perfected method of bedside diagnosis by correlating physical findings with necropsy findings. In 1848, during the French Revolution, Kussmaul joined the German army and achieved the rank of chief physician. After the leaving the army in December 1840, Kussmaul established a private practice in Kandern, where he had been stationed for several months during his military service. Having this new geographic stability afforded by private practice. He married in 1850. Yet his attraction to academic life remained strong. After a few years, he left Kandern for Wurzburg and completed requirements for the degree of Doctors of Medicine, which he received in 1854. He then relocated to Heidelberg, where he further developed his career in academic medicine. In addition to constrictive pericarditis, Kussmaul's academic medical interests included the use of the stomach pump, smallpox vaccination, and polyarteritis nodosa.

Researchers solve the mystery of nitroglycerin's mechanism of action

US investigators have solved a puzzle that has baffled

scientists for more than 100 years how nitro glycerin relieves the symptoms of angina and heart failure, and why it loses its efficacy over time.

It has generally been assumed that nitroglycerin relieves symptoms via the release of nitric oxide (NO), which relaxes vascular smooth muscle cells. However, the mechanism by which NO is generated from nitroglycerin has remained a mystery. "For historical and scientific reasons, it's been a major clinical question: 'How does this drug work?'" lead researcher Jonathan Stamler (Duke University Medical Center, Durham, NC, USA) told The Lancet. "Until now, this has remained a black box."

Stamler and colleagues identified mitochondrial aldehyde dehydrogenase (mtALDH) as the enzyme that converts nitroglycerin in to nitrite. Stamler suggests that the mitochondria activate nitrite to NO, which then acts as a vasodilator. The researchers also showed that mtALDH gradually becomes oxidized, and thereby inhibited, by nitroglycerin even at low doses.

A simple analogy of mtALDH oxidation by nitroglycerin is "rust" in the system, says Stamler. "Nitrates put that rust on the system they oxidize the system. One way to think of tolerance now is time for repair: you've missed up the call and the cell is healing itself so you can give the drug again."

"This is a landmark study: now we understand how the body converts nitroglycerin into nitric oxide" comments Charles Lowenstein (Johns Hopkins University school of Medicine, Baltimore, MA, USA). "These results are also important because they explain why patients become tolerant to nitroglycerin. This mitochondrial aldehyde dehydrogenase enzyme that generates nitric from nitroglycerin is itself inhibited by nitric oxide. Novel approaches can now be developed to overcome nitrate tolerance."

Given that nitroglycerin has a negative effect in a part of the cell that is crucial to cell life the mitochondria, Stamler question whether nitroglycerin should be given long term nitrate use may not be effective and may even to harm", adds Stamler, "and this commonly encountered phenomenon of tolerance may represent damage at a cellular level. The window that we call the nitrate free window might be thought of as time for repair and, if so, the question is raised whether patients should be on this drug long term."

Thomas Michel (Brigham and women's Hospital, Boston, MA, USA) is more cautious, however, about extrapolating the result to patients treatment. "The metabolic fate of nitroglycerin has long been enigmatic, and much remains to be learned. Although the authors' observations are most intriguing, I would be reluctant to infer direct implications for human therapeutics on the basis of biochemical analyses performed *in vitro*", he says.

Helen Frankish

RNAi could hold promise in the treatment of HIV

The discovery that RNA interference (RNAi) can occur in human cell lines is little more than a year old, yet the observation is beginning to yield benefits in terms of research on possible mechanisms to prevent infection of human cells by HIV and other viruses.

This week, US researchers have shown that short interfering RNA (siRNA) can target the receptors through which the HIV-1 virus gains entry into human cells and can even reduce the replication of the virus once the infection is underway (Nat Med; published online 3 June 2002; DOI 10.1038/nm725).

RNAi works by silencing gene expression after the messenger RNA (mRNA) has been transcribed from the host cells DNA template. Short, Double Stranded segments of siRNA bind to specific location of the mRNA by complementary base pairing. After bounding, the siRNA guides the destruction of the complementary section of the mRNA by an associated

enzyme complex, thus silencing the expression of the corresponding gene (see *Lancet* 2002; 359: 682). "it's a very ancient mechanism that is thought to protect lower organisms such as plants from transposable elements like viruses", says co-author Judy Lieberman (Center for Blood Research, Harvard Medical School, Boston, MA, USA). "It's the first time we've shown that by silencing CD4 expression we can block infection." Lieberman adds that the test was successful in a variety of cell types, from HeLa cell cultures to T cells obtained from human donors.

John Rossi, (Beckmen Research Institute of the City of Hope, Duarte, CA, USA), who was Co-author of a recent paper on the use of RNAi in the treatment of HIV infection (*Nat Biotechnol* 2002; 19: 500-05) says that RNAi is potentially a powerful and precise weapon. "This is a selective mechanism they will knock out just the virus or whatever we target it to", Rosso says. "Using the siRNA approach we can target the entire length of the viral genome", he adds. Natasha Caplen (National Human Genome Research Institute, National Institute of Health, Bethesda, MD, USA), one of the researchers who demonstrated RNAi in human cells last year, is encouraged by the way research in the area is developing. "The big thing is that what you're seeing is that it not only is an interesting mechanism, but that it has enormous application", she says. "It's most likely to be used in the limitation of infectious disease of carcinogenicity, but it is also has potential application for some dominant genetic disorders."

David Lawrence

We all fall down : could smallpox return?

Smallpox 2002-Silent Weapon, BBC2, Tuesday 5 February, 9pm

The world has been free from smallpox since 1980. The last outbreak occurred in 1977, it was successfully contained, and the eradication campaign passed into the history books as one of the 20th century's greatest achievements. Governments then wound down their vaccination programmes, and the human race moved on, untroubled by *Variola major* but also increasingly defenceless against it as the immune populations died out. Last Tuesday, a BBC broadcast dramatised what would happen if a terrorist deliberately unleashed a virulent strain of smallpox on a new virgin population. Smallpox 2002-Silent Weapon is a fictional account of a smallpox pandemic in which 60 million people die and three times as many become ill. Civil unrest, martial law, and economic collapse follow the virus across the globe as civilisation's infrastructure collapses under the weight of the dead and dying. The story begins in New York with a single case. An uncontrolled epidemic quickly follows because doctors don't act fast enough when they do. Within a few days smallpox spreads across the Atlantic, then to the rest of the world. The devastation is greatest in Africa, where the combination of AIDS and smallpox kills nine tenths of those infected.

Slowly, it becomes apparent that the outbreak was an act of terrorism. Investigators find an infected body in grand central station, then a key to a hotel room, then a Bible open at Ezekiel, Chapter 5, verse 12: "A third of thee shall die with the Pestilence." The lethal pandemic was caused by a single God-fearing American with a grudge. DNA fingerprinting of the virus type found on his body leads the investigation to a Russian laboratory where military leaders stockpiled the virulent strain "India I" during the cold war. It's not clear how the terrorist acquired his supply, but the disturbing truth is that Russia's economic collapse at the end of the cold war made its military laboratories decidedly leaky.

The BBC billed the programme as a docu-drama, a sometimes confusing hybrid of two very different styles. The documentary label encourages viewers to believe what they see, while the term "drama" gives the producer license to embellish the facts for dramatic effect. It's a powerful if slightly dishonest combination, and one that kept me glued to the screen until the end of the 90 minute broadcast. Invasive question then disturbed my daily routine for several hours. Did the Russian Really Stockpile smallpox virus India I? Is there really an army of disaffected Russian scientists selling smallpox to the highest bidder? And can you really culture smallpox in the kitchen with a home brewery kit?

Telltale shots of New York's World Trade Center indicate that the programme was conceived and produced before the terrorist atrocities of 11 September, but the subsequent paranoia about terrorism must have increased its impact.

Viewers who find themselves unable to sleep might be reassured, as I was, by the US Centers for Disease Control and Prevention. On the website are detailed plans for the management of a terrorist attack with smallpox. Mathematical models of an epidemics likely behavior, and the promise of enough smallpox vaccine for everyone in the United States by the end of 2004. All Documents have been updated since September. If there is a madman out there with a Bible and a Petri dish the Americans, at least, are ready for him.

Alison Tonks *Freelance medical journalist*

Magnetic resonance imaging

Magnetic resonance imaging (MRI) uses the body's natural magnetic properties to produce detailed images from any part of the body. For imaging purposes the hydrogen nucleus (a single proton) is used because of its abundance in water and fat. The hydrogen proton can be likened to the planet earth, spinning on its axis, with a north-south pole. In this respect it behaves like a small bar magnet. Under normal circumstances, these hydrogen proton "bar magnets" spin in the body with their axes randomly aligned. When the body is placed in a strong magnetic field, such as an MRI scanner, the protons' axes all line up. This uniform alignment creates a magnetic vector oriented along the axis of the MRI scanner. MRI scanners come in different field strengths, usually between 0.5 and 1.5 tesla.

When additional energy (in the form of a radio wave) is added to the magnetic field, the magnetic vector is deflected. The radio wave frequency (RF) that causes the hydrogen nuclei to resonate on the element sought (hydrogen in this case) and the strength of the magnetic field.

The strength of the magnetic field can be altered electronically from head to toe using a series of gradient electric coils, and, by altering the local magnetic field by these small increments, different slices of the body will resonate at different frequencies are applied.

When the radiofrequency source is switched off the magnetic vector returns to its resting state, and this causes a signal (which is also a radio wave) to be emitted. It is this signal which is used to create the MR images. Receiver coils are used around the body part in a question to act the intensity of the detection of the emitted signal. The intensity of the received signal then plotted on a grey scale and cross sectional images are built up.

Multiple transmit radiofrequency pulses can be used in sequence to emphasise particular tissue or abnormalities. A different emphasis occurs because different tissues relax at different rates when the transmitted radiofrequency pulse is switched off. The time taken for the protons to fully relax is measured in two ways. The first is the time taken for the magnetic vector to return to its resting state and the second is called T_2 relaxation.

An MRI examination is thus made up of a series of pulses sequences. Different tissues (such as fat and water) have different relaxation times and can be identified separately. By using a fat suppression pulse sequence, for example the signal from fat will be removed, leaving only the signal from any abnormalised tissue within it.

Most diseases manifest themselves by an increase in water content, so MRI is a sensitive test for the detection of disease. The exact nature of pathology can be more difficult to ascertain: for example, infection and tumour can in some cases look similar. A careful analysis of the images by a radiologist will often yield the correct answer.

There are no known biological hazards of MRI because, unlike X-ray and computerised tomography, MRI uses radiation in the radiofrequency range which is found all around us and does not damage tissue as it passes through.

Pacemakers, metal clips, and metal valves can be dangerous in MRI scanners because of potential movement within a magnetic field. Metal joint prostheses are less of a problem, although there may be some distortion of the image close to the metal. MRI departments always check for implanted metal and can advise on their safety. Safety information is also available on the internet on http://kanal.arad.upmc.edu/MR_Safety/

Abi Berger, *science editor, BMJ*

Information for Authors

THE FOLLOWINGS ARE THE MINIMUM REQUIREMENTS FOR MANUSCRIPTS SUBMITTED FOR PUBLICATION

The **MANUSCRIPT** should be prepared according 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.

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DOUBLE-SPACE all parts of manuscripts. TYPE or PRINT on only side of the paper. Number pages consecutively, beginning with the title page. Put the page number in the upper or lower right-hand corner of each page.

BEGIN, ON A NEW PAGE, each section or component with following sequence: title page, abstract and key words, text, acknowledgments, references. Tables, figures and illustrations may be positioned within the text where they should appear.

The **TEXT** of observational and experimental articles is usually divided into sections with the headings of Introduction, Methods, Results, and Discussion. Long articles may need subheadings within some sections (especially within the Results and Discussion sections) to clarify their content. Other types of articles, such as case report, review, and editorial, are likely to need other formats.

The **TITLE PAGE** should carry (i) the title of the article, which should be concise but informative; (ii) the name by which each author is known, with his or her highest academic degree and institutional affiliation; (iii) the name of the department and the institution to which the work should be attributed; (iv) disclaimers, if any; (v) the name and address of the author responsible for correspondence concerning the manuscript; and (vi) sources of support in the form of grants, equipment, or drugs.

The **ABSTRACT** should be in second page and should usually be not more than 150 words for unstructured abstracts or 250 words for structured abstracts. The structured abstract should have following sections: (i) objective(s), (ii) methods, (iii) year and place of work, (iv) results, and (v) conclusion. The abstract should state the purposes of the study or investigation, basic procedures (selection of study subjects or laboratory animals, observational and analytical methods), main findings (giving specific data and their statistical significance, if possible), and the principal conclusions. It should emphasize new and important aspects of the study or observations.

Below the abstract, authors should provide 3 to 10 **KEY WORDS** or short phrases that will assist indexers in cross-indexing the article and that may be published with the abstract. Terms from the medical subject headings (MeSH) list of Index Medicus should preferably be used.

INTRODUCTION should state the purpose of the article and summarize the rationale for the study or observation. Give only strictly pertinent references and do not include data or conclusions from the work being reported.

In **METHODS**, describe your selection of the observational or experimental subjects (patients or laboratory animals, including controls) clearly. Identify the age, sex, and other important characteristics of the subjects. Identify the methods, apparatus (give the manufacturer's name and address in parentheses), and procedures in sufficient detail to allow other workers to reproduce the results. Give references to established methods, including statistical methods; provide references and brief descriptions for methods that have been published but are not well known; describe new or substantially modified methods, give reasons for using them, and evaluate their limitations. Precisely identify all drugs and chemicals used, including generic name, dose, and route of administration. Reports of randomized clinical trials should presents information on all major study elements including the protocol (study population, interventions or exposures, outcomes, and the rationale for statistical analysis), assignment of interventions (methods of randomization, concealment of allocation to treatment groups), and the method of masking

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In **DISCUSSION**, emphasize the new and important aspects of the study and the conclusions that follow from them. Do not repeat in detail data or other material given in the Introduction or the Results section. Include in the Discussion section the implications of the findings and their limitations, including implications for future research. Relate the observations to other relevant studies.

Link the **CONCLUSIONS** with the goals of the study, but avoid unqualified statements and conclusions not completely supported by the data. State new hypotheses when warranted, but clearly label them as such. Recommendations, when appropriate, may be included.

ACKNOWLEDGMENTS may go as an appendix to the text, one or more statements may specify (i) contributions that need acknowledging but do not justify authorship, such as general support by a departmental chair; (ii) acknowledgments of technical help; (iii) acknowledgments of financial and material support, which should specify the nature of the support.

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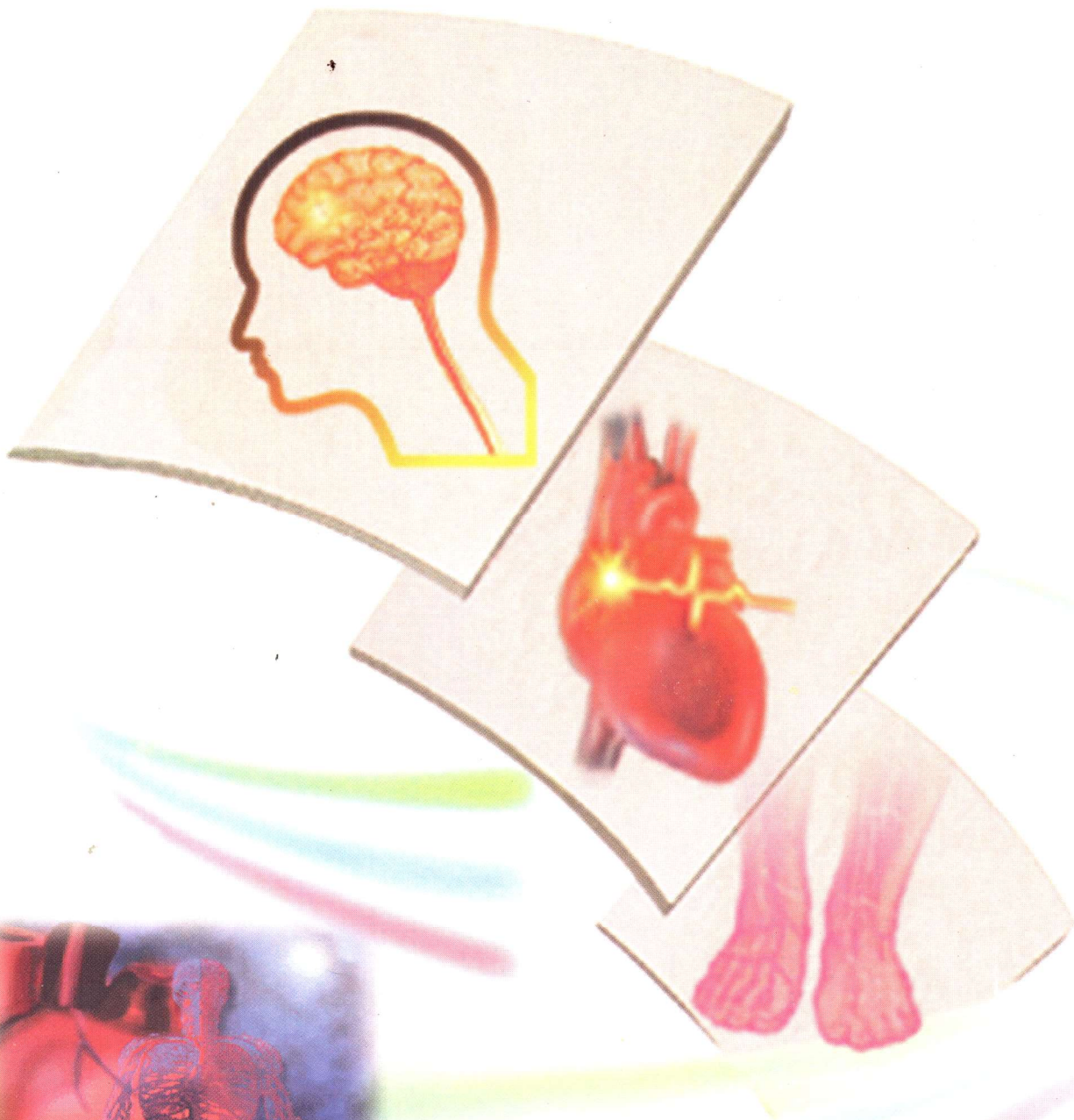
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