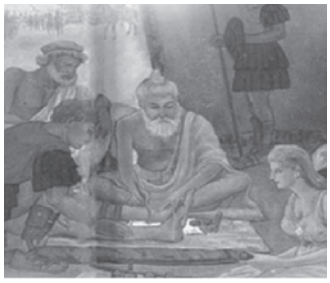
लोकाः समस्ताः सुखिनो भवन्तु

RURAL SURGERY

Official Publication of

The Association of Rural Surgeons of India

Vol. 2 No. 3 July 2006



Editorial Address

Dr. S. K. Baasu (Editor)
Rural Medicare Centre
P.O. Box 10830,
Vill. Saidulajaib, Mehrauli,
New Delhi - 110 030
e-mail:
skbaasu2004@yahoo.co.in

ARSI Website:
www.arsi-india.org

IN THIS ISSUE

- The Other Factors influencing the development of the healthcare system in West Bengal *(Dr. Sitanath De)* 1
- Concomitant Mitrofanoff procedure with bladder neck division - An effective treatment for difficult urinary fistula (A case report) *(Dr. Sabu Thomas, Dr. Prdeep Ninan)* 4
- Orthopaedics in villages *(Dr. S. K. Sharma)* 7
- Ruptured rudimentary horn pregnancy- a case report *(Dr. Nisha Gupta)* 11
- The travails of rural surgery in Nigeria And The Triumph of pragmatism (part II) *(Oluyombo A Awojobi)* 13
- Letters to the editor 17

Price Rs. 3/-

ARSI Governing Body

State Healthcare Scan (West Bengal)

The Other Factors influencing the development of the healthcare system in West Bengal

Dr. Sitanath De

Abstract: *Whenever the provision of healthcare in a particular state is considered, it is invariably followed by a review of the medical facilities available. The numbers of state run hospitals are noted, as are the number of doctors, nurses, paramedics and the quality of diagnostic and treatment facilities accessible by the individual patient. However, the other factors, which influence the development of quality healthcare services in the state, are generally ignored completely and the subsequent difficulties of implementing any program aimed at developing healthcare in the state are just swept under the carpet. The objective of this article is to focus on THE OTHER FACTORS influencing the development of the healthcare system in West Bengal.*

Demographic Changes

Since the partition of the state in 1947, the increase in population from legal and illegal immigration has caused severe strain to the State health budget. The situation was made even more difficult by the outcome of the 1972 war and the emergence of Bangladesh. West Bengal continues to be the main catchments area for refugees from across its borders, imposing a huge strain on its financial resources.

Mismanagement of Agricultural Policies and Unemployment

The total land mass of the state is about 3crores, 20lac acres, of which 1 crore, 34lac 60000acres is agricultural land. However, irrigation dependent agricultural land in West Bengal is only 26% compared to the national average of 40%, due to the financial mismanagement of the Teesta Barrage Project. The Subarnarekkha Project has yet to get under way. Irrigation assisted cultivation has been reduced and the number of landless agricultural labourers has increased. There is a constant migration towards the urban area. The subsequent increase in poverty leads to further malnutrition and disease and a further strain on the healthcare resources of the State. Unemployment levels in West Bengal are rising, largely due to poor job creation. Although various schemes to engender employment have been launched by the government, such job opportunities have not reached the people for whom they are intended. The National Sample Survey organization notes that in the villages of West Bengal, 7.4% of families do not have a single daily meal for a total of three months per annum. Malnutrition has become a major factor causing disease and death.

Roads and Transport System

There are approximately 38,000 villages in West Bengal but about 25,000 of them have no all-weather roads or any form of access during the rainy Season. Financial constraints have been offered as an explanation for this pitiful situation but the State has a very poor record of failure to utilize Central government grants allotted specifically for rural development. In effect, this means that the vast majority of rural poor in west Bengal have little or no access to whatever healthcare the Sate is able to provide.

Power Supply

Whereas other states may be making rapid strides into the introduction of various electronic communication systems, west Bengal still has not managed to provide an adequate and regular supply of electricity

throughout the state. Only about 23% of rural households have received electricity connections and the quality of power supplied is so poor that it is impossible to think of introducing computer systems and other "high tech." diagnostic and treatment facilities in the rural area.

Water Supply and Sanitation

In 1998, the World health Organization declared that the provision of safe, potable water for all was to be the key factor in achieving its goal of "Health for All" by 2000AD. Various criteria were laid down about what constituted an adequate supply of water at village level. However, in West Bengal about 13% of the rural people are still forced to consume water from unsafe sources such as stagnant ponds and polluted streams. In many places even the piped and well water available is contaminated by arsenic from underground water sources. Some efforts are being made to eradicate this problem but there are still at least10 lacs of population of West Bengal who are suffering from arsenic-related disease. Moreover, there are still about 8,797 villages in the state where there is no provision at all for safe drinking water.

In 2001 it was estimated that at least 50% of the rural population had no toilet facilities and were forced to bathe in the same water source that supplied all their daily needs. They are thus exposed to water borne diseases, helminthic diseases, amoebic infections and also run the risk of snakebite or leech infestation. Although efforts have been made by organizations such as the Rama Krishna mission, to provide low cost toilets at minimum cost, the authorities concerned have not done enough to instill a sense of awareness amongst the population most at risk from disease.

Housing and Education

One of the most factors in the spread of Tuberculosis and vector borne disease such as malaria is the fact that at least 55% of rural people live in a single room as their only shelter. Very little has been done to alleviate this problem. What is needed is an acceptable design for very modest, low-cost housing, which would still provide means for a separate cooking area as well as an alternative space in which to isolate sick members of the household.

More stress on general education about health related matters is required and the development of primary education in the rural area is still woefully inadequate. The value of education as a weapon in the fight to improve the standard of health care within the state has been sadly over-looked. The State Government has repeatedly failed to utilize Central Government grants intended for the development of education in West Bengal and the rate of students dropping out of school without completing their education is quite high. Some improvements have been made with the introduction of the mid-day meal for school students but the system is not as effective as it could be due to irregular delivery of meals and poor quality of meals supplied.

Conclusion

Sitting in a modest clinic in a small, sub-divisional town, it is not easy to scan the State (West Bengal). Information resources are difficult to access. However, after more than thirty years of endeavoring to provide basic surgical health care to the rural people, while living amongst them, the author has built up a realistic idea about the state of health-care in West Bengal. The author is convinced that no national, or state-run scheme for the enhancing of rural healthcare in India, can hope to succeed unless these OTHER FACTORS are taken into account.

Today, the topic of the hour is "Privatization", even in the healthcare system. It is the author's view that this would be highly detrimental to our existing healthcare system.

The health service administration might find temporary relief from their responsibilities and obligations. But the existing system, which is still relatively effective, in spite of its many shortcomings, would be undermined by attempts to replace it with an unrealistic, "Western-style" scheme, which would prove too expensive, not only for the poor, but also, the huge "middle-class" population.

In spite of this dismal review of the "OTHER FACTORS" in West Bengal, the author is not entirely without hope of better prospects in the future. Neither does he rule out the utilization of private sector to effect a well-managed overall development of the resources of West Bengal. He is convinced that any improvement in the services provided by the state can only be achieved, if all the other factors contributing to the poor status of healthcare in West Bengal are also carefully considered and dealt with. It is with this view in mind, that "A State Health Scan (West Bengal)-The Other Factors influencing its Health" is offered.

Address for correspondence: Banashree, Jhargram, Paschim Midnapur -721507, Email:drsnde@hotmail.com

Regarding Dr. De's article "...the other factors..."etc.

We had a subject in MBBS called hygiene which taught these issues. Later it became known as "community medicine". In our CRS course this is discussed in details, including guidelines to rural surgeons to overcome these factors in the first booklet of course I. Dr De should visit projects of our members like Regi and lalitha, or even Sivasubramanium, or Manali etc. to see how they are working instead of criticising like a politician. He should enroll more members from Bengal itself and initiate a movement. If he expects ARSI members to go and work in Bengal, he should do so for the other states as well. I wonder if it at all deserves publication in our newsletter. Of course this is my personal opinion only.

J.K. Banerjee

Concomitant Mitrofanoff procedure with bladder neck division - An effective treatment for difficult urinary fistula (A case report)

Dr. Sabu Thomas, Dr. Prdeep Ninan

Case report:

A 32 year old lady was brought to our hospital with continuous urine leak for 6 years following an obstructed labour (with fresh still birth) at home. She came from the foothills of Himalayas and her home was 6 hours walking distance from the motorable road.

On examination she was a short, thin built lady with excoriation and lichenification of perineum and upper thigh resulting from constant wetting. There was an opening in the posterior aspect of vesico-urethral junction communicating with the vagina. A catheter could easily be passed into the bladder through this opening. A catheter when passed through the external urethral meatus was seen entering the vagina at this site.

She was quite indrawn, often crying. She was the second wife of her husband, who has four children from the first wife. Husband was very sure that he will not be able to bring her to hospital again and whatever procedure is done to stop her constant wetting has to be successful.

Patient doing CIC through the appendix stump at the umbilicus

Following points were considered in planning for her surgery.

1. There is a need to attain continence with assurance of 100% success as the husband is not likely to bring this patient back.
2. Patient is at present a social outcast with resultant psychological morbidity.
3. Patient is not willing to wear external device to keep her dry.
4. Patient and the husband do not want her to conceive again.

Procedure:

Under spinal anesthesia abdomen was opened in the midline, bladder neck including the fistula was separated by division of urethrovesical junction. Vaginal wall was closed off with 3 0 vicryl. Fistula opening including bladder neck was closed with 3 0 vicryl continuous suture. Right Rectus abdominis muscle was defined within the sheath and divided at one third of the distance between pubic symphysis and xiphoid process. This muscle was turned back and covered over the sutured bladder neck suturing the divided end to the pelvic floor. Thus this muscle with its intact blood supply was placed between the bladder and vaginal suture lines.

Appendix was divided at its caecal end and mobilized with its blood supply. Bladder was opened sagittaly .A sub mucosal tunnel was created in the posterior wall of bladder. Appendix was implanted into the bladder through it. 3 0 Vicryl was used to suture the opened appendiceal tip to the bladder. A no 10 F feeding tube was used to flush out the contents from appendix and to check the patency before appendiceal implantation. Caecal end of the appendix

was brought out at the umbilicus. A Mallecot catheter brought out through a separate stab incision was placed as suprapubic cystostomy before bladder closure in two layers.

Tubal ligation was done before closure of the sheath with No1 vicryl.

SPC was put on drainage for three weeks following which it was clamped to teach patient intermittent clean catheterization through the appendix. Mallecot catheter was then removed, patient remained dry, learnt to do CIC gladly, went home.

Discussion:

Vesicovaginal fistula is an eminently preventable condition if sufficient referral facility with provision for caesarean section is available. In many of our rural areas it is still difficult for people to reach a center for caesarean section early enough. In this hospital we have treated three patients with VVF in the last 2 years out of which two were between the bladder and vagina, abdominal repair being successful in both the cases.

In this case the anatomical site was further complicated by the difficult social/family settings and remote geographical access thus demanding a procedure which could assure 100 % continence.

Use of appendix as a catheterisable continent channel to the bladder was originally described by Mitrofanoff in 1980 (1). Rectus muscle flap for buttressing the bladder neck division in children with incontinence has been described by Sen et al (2).

Augmentation of the bladder is always done together with bladder neck division in treating congenital causes of intractable incontinence as the bladder capacity is very small in such cases. There was no need to do that in this case as she had a normal bladder to start with.

Assessment of psychological morbidity is very important in such patients. This patient used to breakdown sobbing some days because she had dreams that she is continuing to be wet. The hospital team of counselors and clinical psychologist helped substantially in reassuring her and to restore her self image.

Address for correspondence: Herbertpur Christian Hospital, Herbertpur, P.O, Dehradun, Uttaranchal 248142

References:

1. Mitrofanoff P (1980) Transappendicular continent cystostomy in the management of the neurogenic bladder. Chir Paediatr 21:297-305
2. Sen S, N Zachariah Chacko, G Thomas(2003) Buttressing the divided bladder neck by a Rectus abdominis muscle flap to prevent urethral re canalization in Paediatric urinary incontinence . Paed Surg Int 19:124-126

I would like to describe the out line of another method of repair for this kind of fistula, involving the bladder neck and urethra which to my mind is much simpler to perform, less extensive, restore normal anatomy and make the patient continent.

1) *A circumferential incision at the edge of the fistula with bilateral transverse extensions of the incision through vaginal route*

2) *Dissection of the ant. Vaginal wall from the bladder/ urethra, just enough to make closer possible.*

3) *Dissection of bladder neck bilaterally in a way so that enough of Para vesicle space is available and bladder neck is free for three- quarters of its circumference.*

4) *Insertion of a Foley catheter (16-18 No. size) into the bladder.*

5) *Closing of the bladder and urethra with a single layer interrupted inverting chromic catgut 00 sutures. (Water tight closer can be checked by gentian violet (20%) instillation)*

6) *Dissecting out the bulbo cavernosus fibro fatty pad by making an incision on Labia majus (either left or right) and mobilizing the same from its antero superior part towards the posterior, leaving the posterior part intact to have the blood supply and innervations.*

7) *Tunneling of the pedicle graft under the lateral vaginal wall and fixing it transversely over the repair and urethra and bilaterally on to the symphysis (through the periosteum at the back of symphysis by two anchoring sutures and one more suture placed laterally from the EUO on each side. Tension should be such that the urethra is elastically elevated against the symphysis.*

8) *Closure of the ant vaginal wall over the bulbo cavernosus graft*

The advantages of the graft are that it covers the repair, seals it off, introduces new blood supply and prevents any cross union between the bladder and vaginal wall mucosa. It also fills up the dead space. It elevates the urethra against symphysis and functions as bolster at any subsequent deliveries. Since the whole urethra, bladder neck and UV junction is suspended, a sudden increase in intra abdominal pressure is thus immediately trsmitted to the closing mechanism. **- Editor**

Comments are invited about the procedure adopted by the author

Orthopaedics in villages

Dr. S. K. Sharma

Introduction

70% of Indian population lives in villages. Majority of them are poverty stricken. Ignorance, illiteracy, fear and cultural belief based on tradition are rampant among them. Health care facilities are abysmally poor in most of those villages. Lack of proper infra structure and unwillingness of qualified medical practitioners to work under such conditions make the helpless villagers turn towards the elderly persons in the family or locality for opinion, treatment and to seek guidance to tackle the common medical or surgical problems like minor illness and injuries. Quite often victims are brought to them directly from the site of accident. Under such situations the common thing available in the house is used for immediate relief and early cure. For example- Chapatti (hand made bread) is used to reduce the local swelling. Saline fomentation is in common use for the treatment of soft tissue injuries.

After a few days of trials if there is no relief, these victims start their journey to nearby semi urban areas, where the facilities are still insufficient and medical problems are being managed by non-qualified quacks. The *mochis* (cobbler), *pehalwans* (wrestler or sturdily built man) and other osteopaths go for a new line of treatment for these villagers. Massaging, wrong manipulations and use of different *pattas* (a flat surfaced object: slab, board, plank) are commonly practiced at an exorbitant cost. By the time they reach to the qualified practitioners or to a reasonably equipped hospital in the city, most of them have not only complications like cellulites, osteomyelitis, painful deformities, and gangrene, they are also exhausted with their money. As a result either they are very late for the best results of management or they often come back without treatment. This is the usual story. This paper out lines some such remedies for common orthopedic problems, still practiced at large in remote villages. Some of these remedies are effective, some are not, even may be harmful. While they make a fascinating study, the author feels that there is a need for scientific research on the use of these local modalities and their efficacy so that they can still be advocated in a rural set up as the first line of management to give the victim some relief till the time he is in the safe hand of a qualified medical practitioner.

Solutions for Bruise and Hematoma

The person is treated first with application of *roti* (hand made bread-cake) made on *tawa* (pan) on only one side. The hot uncooked side is kept over the skin of the affected part and wrapped with used clothes. This helps in reducing the swelling and relives the severity of pain. The same procedure is repeated on subsequent days. Luke warm water mixed with common salt is poured over the affected part also soothes the person. *Pyaj* (onion) peels are used for wrist and ankle pains and trauma. The same way *amba haldi* (yellow zedoary, *Curcuma aromatica*) paste is smeared. The turmeric is said to be an astringent. The *alsi ki pultis* (paste made up of linseed oil seeds) is made in home just before application to the affected part.

Joint Stiffness

The post plaster and post operative stiffness around joints are treated with application of mawa (dried wet milk) over the joint covered by a piece of news paper and then bandaged overnight. The bandage and the news paper are opened on the next day. The skin becomes soft and swelling gets reduced. This procedure is followed for few more days. The stiffness gets loosened. Joint movements come back. Milk of sheep/ goat/ camel is also rubbed by some over the affected joint to make it mobile.

Hot swellings

This condition is treated by applying a *lep* (paste) made up of coconut oil mixed with sindoor (lead oxide). After this *lep* is applied over the part, it is covered with a paper so that the oil may not drain out. The acute parotiditis has been found to be cured with this application over the cheeks.

Pains

For reducing the severity of pain of acute trauma, the person is offered a glass full of hot milk mixed with sugar and a tea spoon of yellow turmeric powder to drink. A hand-full crystals of common salt wrapped in a cloth is made hot over a pan and touched on the skin of the affected part. Quite often the marking nut (*bhilawan*), a black seed, is made hot and touched on the affected part also, be it on the limbs, back or abdomen. The high temperature of seed burns the skin and the person cries with pain. The pain of burnt skin is pricklier. The area is kept open.

Back pain

Acute backache is one of the disabling conditions for an active person. In rural areas this condition is being treated by application of local pattas and *lep* at the back. Different ingredients are used for preparing the *lep* by different people. Some make it with egg yolk (*ande ki jardi*), *sindoor* (lead oxide) and coconut oil. Others make it by churning a concoction of green leaves of plants (name of plant is never disclosed), oil and egg yolk over the flat stone by a mortar. This *lep* is supposed to be applied over the full of back, covered by large leaves and tightly bandaged by dhoti, dupatta or gauze bandage or a wide crepe bandage. This semisolid *lep* also contains *afeem* (opium) seeds / *afeem* powder / afeem leaves. The bandaged *lep* works 24hours and the severity of pain gets reduced to the extent that the victim is able to do ADLs; Once a qualified doctor went for the treatment of acute lumbago pain to the expert who cured him by

Clockwise shows first the *LEP* in a plate, fracture femur treated by wooden splints, Application of *lep* over the wrist, lep-bqandaging over the knee swelling, and last the lep & splinting of fracture at wrist.

leps and *pattas* in a couple of days. The expert refused to charge any fees saying that- *hampesha log se fees nahin lete* (I don't charge fees from people of same profession)!

Neck pains

Simple pain in neck is mostly treated by *leps;* In case of no relief, traction is applied daily for one month by the expert in their shops. Traction kit availability is no problem for them.

Chronic wounds

Non healing wounds of leg, hands, foot and elbow are dressed daily without sterilization technique by using honey. Many a time's dressings are done with betadine ointment mixed with honey and oil.

Sprains and Displacement

The sprains of foot, ankle, elbow, and wrist are treated by *leps* and flexible bandages after giving jerks to the affected part of the joint. This is done with the belief that the maneuver can make the joint come back in its position in case of joint displacements.

Fractures

Undisplaced fractures of children are bandaged with the same kind of *lep* used for pains only. Fractures of wrist are often treated by using two wooden thin plates as splint. After *lep* application cotton wool is placed over it. Plates are kept one on the dorsal and other on the ventral aspect of the wrist joint. The entire thing is then tightly bandaged. The elbow is kept free. Forearm fractures are also treated in the same way. However, to immobilize both the joints i.e. elbow and wrist, longer plates are being used. The forearm is always kept in mid prone position. Fracture clavicle is treated again by *lep* applied to the bone followed by a modified figure of eight bandage for support. Bandage also takes turns around chest. The arm bone humerus is treated more accurately by bamboo sticks used as a vertical splint, which can be wrapped all around and immobilized for a month or so. This arrangement acts as Galveston arm brace, local version though. Elbow fractures are splinted by two wooden plates. One plate is kept anterior to upper arm and the other posterior. To immobilize elbow joint two plates are kept over forearm also. Fractures of leg bones are treated by two wooden plates used as splints. Thighbone is treated by four long wooden light weight plates. These are kept all around lower limb, to immobilize knee and ankle joints as well. Fractures patella is treated with *lep* cottoned and bandaged by using one metallic ring. The ring is 1-2inch in diameter, and covered by thin gauze. Ring is kept over the front of knee. Fracture neck femur is treated by placing four long wooden plates, one crossing the outer of iliac bone and the waist laterally. The inner one goes up to the perineum, the anterior one is placed up to groin and the posterior one extends above the gluteal region. Traction by adhesive tapes and bandages at home of the patient is also being practiced. Calcaneal fractures are only bandaged after applying *lep*. Finger injuries are treated by using ice cream spatula as splint. Chewing of the leaves of Banyan tree and eating them are recommended to the person having fracture with the local believe that it helps in fracture healing. Likewise the roots of hadjod (a local medicinal plant) are also fed orally.

Discussion

The contents of all the above mentioned *lep* (pastes) used are mainly fat. Fat contains PUFA. Many studies have shown the beneficial effects of various fatty acids on immune and inflammatory responses, some of which are used in rheumatic diseases. The important roles of polyunsaturated fatty acids [PUFA] in the prevention of chronic disease have long been recognized. Clinically the increased dietary intake of EPA and DHA [Eicosapentaenoic acid & Docosapentaenoic acid] improves the manifestations of Rheumatoid arthritis. Fatty acids may induce changes in membrane fluidity, antibody and cytokine production, adhesion, molecule expression and signal transduction pathways;

suppress leukocyte function, trigger apoptosis and like NSAIDs, reduce production of prostaglandins and leukotrines. Fatty acids, [n-3 and n-6 fatty acids] have been shown to reduce the number of tender joints and morning stiffness in RA. Kremer and Calder, Nagendran and Hesslink, Siemandi reported use of esterified fatty acid complex [EFAC] in sport related pains, osteoarthritis and rheumatoid arthritis pain. According to Maresh EFAC reduces morbidity and improves flexibility and ROM. The contents of all the above material used are mainly fat containing PUFA which has proven effect on inflammatory process. Thus the use of egg yolk, oils, oil-seeds and liquid-butter used in the *lep* (pastes) must be having the ability to reduce pain; this needs to be explored thoroughly by using wider data and proper scientific analysis.

References:

Dinarello CA. (1996) Biologic basis for Interleukin-1 in Disease Blood 87:2095-147.

Arend WP, Dayer JM (1995) Inhibition of production and effects of Interleukine-1 and tumour necrosis factor in Rheumatoid Arthritis. Arthritis Rheum. 38: 151.

Kremmer JM (1996) Effects of modulation of inflammatory and immune parameters in patients with Rheumatic and Inflammatory disease receive dietary supplementation of N-3 and N-6 fatty acids. Lipids.

Kremmer JM. (2000). N-3 Fatty acid supplement in Rheumatoid arthritis. Am J Chi Nutr. 71 Suppl:349S-351S.

James MJ, Gibson RA, Cleland LG (2000) Dietary PUFA and inflammatory mediator production. AM J Clin Nutr. 71 Suppl : 343S-348S

Calder PC, Gribe RF (2002) PUFA, Inflammation and Immunity. Eur J Clin Nutr. 56 (3) : S14-9.

Address for correspondence: Associate Professor HOD, Dept. of Orthopaedics, R D Gardi Medical College, Ujjain, MP e-mail: orthonik@yahoo.com

According to Egyptian papyrus, the oldest preserved document of medical Therapy (1552B.C.), joint pain was treated even in those days by ointments containing fat, oil, bone marrow, gum or honey as base. To this was added flour, natron (a mineral of hydrous sodium carbonate), onion, cumin, flax, frankincense or pine. Application of flax seed (Linseed) or animal fat is still used today in the Egyptian country side as an ointment for rheumatic pain. As mentioned by the author, most of the ingredients used for *lep* contain PUFA. It has been scientifically proved that PUFA stimulates immune function and act as **anti-inflammatory agents**. Turmeric and salt are also having antiseptic and anti inflammatory property and certainly we can't discard massage therapy which is quite effective in relieving pain and increasing the circulation of the body through rhythmic hand motion. In sports, massage therapy is used to prevent strain by warming up athletes prior to a workout. Today in Sri Lanka there are Traditional Ayurvedic Physicians who are quite capable and popular for orthopedic treatment. Most of the specialized practitioners have brought knowledge through generations. Hence this treatment has a special regard from the people. A high proportion of Sri Lankans select the Traditional System as their first choice of treatment for orthopedic.

Therefore many of the treatment provided by traditional practitioners in India need careful evaluation before out rightly discarding them. However this article brings up another important issue i.e. **why traditional practitioners are still popular in rural India for fracture and other orthopedic treatment**? To my mind following may be some of the reasons:

1. Easy availability of Traditional Practitioners especially in rural areas. There are number of practitioners who treat orthopedic ailments. They are the first point of contact for such problems.
2. Easily affordable.
3. Fear for the surgical treatments and plaster of Paris casts by rural folks.
4. The methods used are convenient and comfortable. (Soothing medicine and light splints)
5. Quicker healing of bones (patients feel).
6. Easy movability of joints.
7. Patients are content and happy with the mental and physical cares provided by the Traditional Ayurvedic Physicians. They do not use plaster casts that lead to high degree of joint stiffness in intra-articular fracture. Instead they use splints. *– Editor*

Ruptured rudimentary horn pregnancy- a case report

Dr. Nisha Gupta

Introduction

Pregnancy in a non-communicating rudimentary horn (RHP) of uterus is a rare form of Ectopic gestation. The incidence is 1-1,00,000 to 1-1,40,000. It occurs following trans- peritoneal migration of sperm or zygote through contra lateral tube. Natural course of RHP is usually rupture of pregnant horn during 2nd or late 2nd or 3rd trimester leading to life threatening heavy bleeding. Therefore early diagnosis of this condition is of major importance to save the life of the patient.

Recently we came across with one such case of ruptured rudimentary horn pregnancy of 14 weeks gestation which we could able to diagnose while performing routine ultra sound.

Case report

A 20-year-old female patient presented with history of 4 months pregnancy and lower abdominal pain. Both trans- abdominal (TAS) and trans- vaginal (TVS) sonogram was performed.

Ultrasound findings

A large well-defined rounded gestational sac with single live fetus of 14 weeks gestation is seen in right adnexal region. A very thin layer of myometrium is present surrounding the gestational sac. Uterus is seen separately from the gestational sac and deviated towards left side. Uterine cavity is empty. There is no direct visual continuity seen between the gestational sac and normal uterus. Significant fluid is present in POD. B/L ovaries are normal. On the basis of these findings, a diagnosis of possible right rudimentary horn pregnancy is made (? Ruptured).

Confirmation of Diagnosis

Laparotomy was preformed immediately. The preoperative findings showed right rudimentary horn pregnancy with hemo peritoneum.

Pregnant rudimentary horn was resected along with the ipsilateral tube and ovary. Contra lateral tube & ovary was left in situ.

Discussion

Pregnancy in a rudimentary horn may not be as rare as previously thought. In an exhaustive review of the literature Nahum summarized 588 cases. In that series uterine rupture occurred in 80% of RHPs. Few live births have been reported. The maternal mortality rate was 5.1%.

Ultrasonography may be helpful in diagnosing such anomalies before rupture, which help in decreasing the morbidity and mortality associated with rapid and massive haemoperitoneum occurring because of rupture.

Rudimentary horn pregnancy mostly ruptures because of thin musculature of pregnant horn, which is unable to expand with ongoing pregnancy. Presence of placenta accreata further increases the possibility of rupture.

Following are the criteria for sonographic diagnosis of RHP.

1. A pseudo pattern of an asymmetrical bicornuate uterus.
2. Absent visual continuity of tissue surrounding the gestational sac and the uterus cavity.

3. The presence of myometrial tissue surrounding the gestational sac. Typical hyper vasualarization of placenta accreata may support the diagnosis.

The differential diagnosis of sonographic suspected RHP is a tubal pregnancy, cornual pregnancy and an intrauterine pregnancy in a bicornuate uterus. A tubal pregnancy will not show a ring of myometrium surrounding the gestational sac, but differentiation between the two later conditions and RHP may be difficult. Variable thickness of the myometrium in two horns and a marked distance between them support diagnosis of RHP. In contrast to RHP continuity between the endometrium, gestational sac and the other uterus horn is typical for a pregnancy in bicornuate uterus.

MRI is sometimes used to overcome this diagnostic problem. MRI has been proved to be a very useful noninvasive tool for diagnosis of mullerian anomalies. It offers multiplaner images without the hazards of ionization and is able to show both internal and external uterine structures. In case of rudimentary horn both coronal, axial and sagittal planes are used for accurate assessment of uterine connection to the horn and either confirm or rule out cavitary communication.

Once diagnosed, immediate removal of a pregnant rudimentary horn is required to prevent from rupture. In conclusion we suggest to follow the criteria for early sonographic diagnosis of RHP. MRI is helpful in conformation of diagnosis of RHP if suspected on ultrasound.

Address for correspondence: Rural Medicare Centre, P.O. Box 10830, Village Saidulajab, Mehrauli, New Delhi - 110 030

IFRS Section

The travails of rural surgery in Nigeria And The Triumph of pragmatism (part II)

Oluyombo A Awojobi

(This article is an abstract of 3rd Surgery Guest Lecture, delivered by Dr. Oluyombo A Awojobi at Department of Surgery, Obafemi Awolowo College of Health Sciences and Olabisi Onabanjo University Teaching Hospital Sagamu, Ogun State, Nigeria. In part I of this article the author described the difficulties faced by the rural surgeon during training, during appointment and the administrative travails of the rural surgeon in the public service).

The Travails of Infrastructure in the hospital

Water Supply

The first problem I faced on arrival in Eruwa was the gross inadequacy of water supply- the indispensable infrastructure in any hospital worth that name. At that time, it was the system of bowls and buckets for most part of the day. This was surely unacceptable in the delivery room and the theatre.

Water supply from the water works was intermittent and with their 90,000 litre overhead reservoir it was not possible to provide water round the clock without running the risk of having no water in reserve when there was mechanical failure at the works. This was a perpetual problem due to shortage of chemicals and erratic power supply.

Over the three-year period, we built a series of secondary reservoirs with a total capacity of 30,000 litres. Thus, all the wards, theatre, kitchen and laboratory got their own reservoirs providing water from the taps all the time. The main reservoir could serve us for about three weeks without any assistance from the water works.

In January 1985, we constructed a deep well to provide another source of portable water. To facilitate water distribution, we purchased a hand pump and a gasoline pump, which lifted water into the various reservoirs. All construction works were through direct labour with the assistance of hospital personnel and artisans from the neighbourhood.

At our permanent site, throughout the rainy season that spans April to October, all the rainwater falling on all roofs is collected in concrete reservoirs from cement gutters at roof level. A 30 000 litre reservoir will satisfy our requirement till January after which we resort to pumping of water from six deep wells sunk in the valley using a portable pump. Thus we do not rely on the municipal water supply. Recently, we have constructed an earthen dam across the stream that runs through the clinic, with the intention to make us self-sufficient in water supply. In near future we are going to populate the dam with fish to control mosquito breeding and provide protein for the patients and staff!!

Energy Supply and Lighting

Other initial problem at the District Hospital was electricity supply. Two high-powered generators were installed at the inception of the hospital. One broke down in 1978 and its parts cannibalized to maintain the second, the functioning of which was unreliable and expensive. In the light of this, we launched an appeal fund for a new generator in March 1984. By November 1984, we had bought a 5KVA diesel generator at =N=6,000.00 mainly from operation fees and the appeal fund. This generator was capable of providing the essential electricity supply of the hospital except x-ray service.

At Awojobi Clinic Eruwa, the buildings are constructed with large windows so that natural lighting is adequate to perform surgery in the daytime. Ventilation is good and obviates the need for fans and air conditioners. We have fabricated a coal furnace that is more efficient than the diesel or gas burner to operate the autoclave and the distiller.

Recently, the inverter came into use. This is a device that converts the direct voltage of the car battery to the alternating voltage of the national grid or the electricity generator. We bought an imported brand for N75 000.00 two years ago. However, I am happy to inform you that a young Nigerian engineer, Mr Bola Adeniyi, who works in Ikenne, 15km from here, has produced a reliable version that costs a third of the imported brand. So, when we operate at night there is no longer the danger of Power Holding or load shedding during surgery!!

For six continuous years, we did not have electricity in Eruwa and Ibarapa until four years ago. I have challenged Engineer Adeniyi to produce the solar panel, which is the final solution to the problem. I am sure he will do it.

Sewage disposal

Human waste disposal at the government hospital had been hazardous until June 1984, when, with the help of Ibadan medical students, during their posting to the hospital, we completed the construction of a three-compartment ventilation-improved pit (VIP) latrine for the use of our patients and members of staff. The water closet system installed when the hospital was built was inappropriate culturally and unworkable in the face of inadequate water supply.

Equipment

- The **operating table** was built in 1986. It is sturdy, has the facilities for all the basic tilts required by the surgeon namely: elevation and depression using the hydraulic jerk of the motorcar, Trendelenburg's tilts, neck flexion and extension and the lithotomy break. It can be fixed with our adaptation of the Mayo trolley which we call Olumide's table, named after the medical officer, my student, who suggested it. It is made of 90% wood and 10% metal, covered with Formica to improve its aesthesis and it is washable. It costs less than 10% of the imported brand made of cast iron. This table was a prize - winning project at the "Innovation of the Year" competition organised by Ikeja Jaycees.
- The **autoclave** and the **water distiller** are made from domestic cooking gas cylinders and are powered by the coal furnace that we fabricated. It takes 20 minutes to autoclave materials. Thus, we are in a position to perform surgery without much wait. Water is distilled at the rate of 10 litres an hour. The water distiller was also an prize-winning project by the National Agency for Science and Engineering Infrastructure
- The **pedal suction pump** is fabricated from plumbing pipe, a piece of leather and a reversed bicycle valve.
- **The Haematocrit centrifuge** has been fashioned from the rear wheel of the bicycle. The disc revolves at 5400 rpm (equivalent to a force of 3 360g) enough to pack the red cells in five minutes. When we ran out of plasticine for sealing the capillary tubes, the cheap and readily available candle wax has proved just as effective as for the embedding of tissue for histopathology.

A reviewer of the article on the device for the journal, TROPICAL DOCTOR wrote;

'The author is to be congratulated for designing this piece of equipment'. He went on: 'I admire the ingenuity'.

- **Intravenous fluid** therapy is lifesaving in many clinical situations especially for

surgical cases. However, the fluid must be available when needed in adequate quantity to ensure successful treatment. Until recently much of the intravenous fluid in the country was imported and costly on the open market. This has resulted in its scarcity in the peripheral health units with attendant morbidity and mortality in patients requiring intravenous fluid therapy.

In 1984, two of my surgical patients (one elective and the other emergency) died from inadequate fluid therapy. So we launched into intravenous fluid production along the lines described by Maurice King in his very handy and practical book *"Medical Care in Developing Countries"*

We should remember that the UCH, Ibadan used to produce all the intravenous infusions it needed when we were medical students in the 70's.

To date we have produced 54 430 litres of normal saline, 3 550 units of acid citrate dextrose solution for blood transfusion and 1 900 litres of 25% dextrose all at 10% of the cost on the open market.

- Histopathology service We faced tremendous problem in getting the histopathology reports of operative specimens in time from the teaching hospitals. By August 2003, we had 49 outstanding reports at the University College Hospital, UCH, Ibadan Pathology Department dating back to 2001. We had paid one thousand five hundred naira (N1 500.00) for each specimen.

Again, we have overcome that bottleneck by procuring the microtome and other accessories to produce the slides. Technicians who are holders of National Diploma in Science Laboratory Technology of the Polytechnics have processed 626 specimens from our patients till date and a pathologist in UCH read the slides for us. Results are now routinely available within 10 days of obtaining the specimen.

We have adapted the ordinary candle wax to replace the standard paraffin wax for making blocks of the tissue, the surgical or razor blade has replaced the imported microtome blade and a small kerosene stove has taken the place of the electric hot plate for fixing the slices to the glass slides. The candle wax and surgical/razor blade are much cheaper but just as effective as the imported substitutes.

Transportation

Another major problem in health care delivery in rural areas is transportation. Poor and expensive transportation system deters the patients from seeking medical help in time.

We have contrived a tricycle from the conventional motorcycle and adapted it as a village ambulance. We call it KEKE ERUWA or AUTONOV - 3. Autonovs 1 and 2 were the inventions of my elder brother, Professor Ayodele Awojobi, a mathematician, a mechanical engineer and a social activist of the University of Lagos in the seventies and early eighties.

The Clinical Travails of Rural Surgical Practice

The first thing I learnt on getting to Eruwa was that I was going to manage both the patient and his relations. This is a critical component of rural surgical practice; reminiscent of the famous Aro Village of the renowned psychiatrist, Professor Adeoye Lambo.

Relations stay with patients 24 hours of the day. They offer useful nursing care and act as continuous monitors of the patient's well being. Some could be mischievous - administering native drugs to the patient or taking other tablets brought from home. This practice is fortunately infrequent, as I engage in health education most of the time. Maximum cooperation is readily assured if

steps in the management are explained to them, especially in surgical cases. During surgery, the relations are encouraged to come into the operating room and watch the operation. Those who cannot stand the sight of blood are excused.

In presenting some of the peculiar clinical problems faced by the rural surgeon, let me quickly report on the surgical practices of the traditional healers.

The first healer I met in 1983, who claimed he could cure keloids, ended up infecting the keloids with one patient developing tetanus. Later, the healer developed diabetes mellitus complicated by gangrene of the foot. When advised to have below-knee amputation he prevaricated until he needed above-knee amputation to stay alive.

The automobile panel-beater- turned bonesetter is the latest arrival on the scene. Several young men with malunion of lower limb fractures and waddly gait from unreduced dislocations of the hip are testimonies to his skill. There are the occasional urethral fistula and clitoral cyst complicating circumcision in male infants and genital mutilation in female children respectively.

Anaesthesia

A rural surgeon does not have the luxury of a trained anaesthetist or a nurse anaesthetist. Therefore he combines both functions using auxiliary nurses to assist in monitoring the patient.

The methods of anaesthesia available are local infiltration, spinal anaesthesia and Ketamine anaesthesia. Ketamine anaesthesia was just being introduced into clinical practice in the early eighties and it has made paediatric surgery possible in the rural area even on outpatient basis. It is useful and safe in emergency surgery like Caesarean section and laparotomy for peritoneal sepsis, ruptured Ectopic pregnancy and intestinal obstruction. Recovery hallucination is minimized when premedication with diazepam and chlorpromazine was used.

Spinal anaesthesia using 5% plain xylocaine after lumbar puncture with 23G needle has been used successfully in the outpatient management of external abdominal hernias. It facilitates the teaching of groin herniorrhaphy procedure to the junior medical officers.

The low incidence of spinal headache (1.1% of spinal anaesthesia administered) was due to the use of a fine gauge (23G) needle for lumbar puncture and the rarity of acute urinary retention, especially in the elderly, was due to early ambulation and the use of short-acting anaesthetic agent (5% plain xylocaine).

Letters to the editor

"*A. R. S.I. It's Origin, Present Status and Future*"

Dear Sir,

I would like to thank Dr. N. H. Antia for his article "A. R. S.I. It's Origin, Present Status and Future" - "Rural Surgery", January 2006. His timely reminder about the philosophy behind the formation of A.R.S.I. and the recent drift away from the original aims of the organization is a much needed warning about the future durability of our society.

The original purpose of A.R.S.I. was to gather together in one forum, all those surgeons, gynecologists, orthopedic, eye and E.N.T. surgeons, and also the anaesthetists, working in the rural area and who felt that their interests were not taken care of by the existing organization, A.S.I. The purpose was to endeavor to improve the quality of existing rural surgical service by providing the rural people with surgical care which was effective, affordable and obtainable, almost on the door-step. The intention was to avoid patronage from pharmaceutical companies and instrument manufacturers so that at all times, the sole criterion for use of drugs or surgical instruments was whether such use was compatible with the aims of the society. For this reason, it used to be the practice of our society to avoid elaborate, mechanical "five-star" arrangements at our annual conference and to rely on simplicity and the warm, personal hospitality, so readily found in the rural area. This policy was intended to enable more rural surgeons to attend and to participate actively in our gatherings, undeterred by undue sophistication and expense. The intention was to work together to promote rural surgery as a specialty with its own particular requirements. There is a recognized need to cultivate diagnostic skills which do not depend on expensive, and frequently inconclusive, "special investigations". The question of introducing "High Tech." procedures in rural surgery is still a sensitive topic. While all doctors will be eager to receive information about the very newest procedures available in our country, most of these are still not applicable in the rural area. It is difficult to discuss the introduction of computer aided surgical instruments in areas which are still without electricity or running water supplies and where the most basic infrastructure is non-existent. It is unrealistic to contemplate the use of "High Tech" procedures in the rural area, where even a pair of surgical gloves is quite often not available.

Such were the aims and objectives of A.R.S.I. from its foundation, but in recent times they seem to have been forgotten. Soon after the formation of A.R.S.I. some of its founder members dropped out and some returned to A.S.I. where they have formed a special branch known as A.S.R.I. With their proposal it was decided to hold joint conferences, hosted in alternate years by A.R.S.I and A.S.R.I. Unfortunately what we have now is a situation where simplicity is being overtaken by "glamour" and where the brochure for our annual conference becomes glossier and more expensive to produce every year! As for our aim to discuss our common difficulties and possible solutions, they are generally ignored. Minimal access surgery demonstrations have now become a predominant feature at our conferences. Thus most of our delegates are forced to become silent spectators and feel as neglected as they did when they attended the mainstream A.S.I. conferences.

Finally, local and regional rural surgical care problems are being neglected while we rush for the excitement of making ourselves part of an international federation. It is debatable whether any international organization will be of value in solving our own domestic

problems. Many small nursing homes and surgical care clinics have been forced to close down due to the demands of the Clinical Establishment Act. Thus affordable surgical care is becoming unobtainable for many sectors of our rural population. We still have not been able to connect with many of our colleagues working in isolated areas, and the remotest states of our country still have no representative at all in our organization. In spite of much discussion and hard work by some of our members, we have not yet found a satisfactory method of providing much needed rural surgical training to the young doctors whom we hope will be the rural surgeons of the next generation.

It is time for introspection to take a long hard look at our aims and objectives and vigorously defend what we actually believe in. Most importantly of all, it is time to actively recruit new blood into our society so that we can pass on our years of hard-learned experience to a younger generation who will be the rural surgeons of the future.

Dr. Sita Nath De
Jhargram, Paschim Medinipur

Reply

Dr. De has raised many relevant issues in his letter. But he has also made many factual mistakes. Hence this reply.

The first factual mistake is that NO founder members has left the Association and are still actively promoting the cause of rural surgery. More members are joining everyday. Unfortunately, very few from west Bengal, and that too none with activity. All of them (Enlisted by Dr.DE) seem to have faded out over a period of time. We hope Dr.De himself will become more active in enrolling active members from West Bengal in future. Secondly, the picture of rural surgery emerging in our country has changed over the last twelve years. Many are practicing basic laparoscopic surgery and their presentations only have been projected in our conferences. We feel it is admirable for a rural surgeon to practice sophisticated surgery in a remote rural setting and should be highlighted in our conferences. But besides these papers, many papers dealing with other issues relating to rural surgery has also been presented like training of paramedics, study of patient compliance, use of indigenous appliances, open surgeries etc.

We have also discussed ethical issues like equity of distribution of services and suggested probable solutions to our members after discussing with Supreme Court advocates. Our past presidents like Dr. Tongaonkar and Dr.Antia are actively involved in fighting unjust legislations affecting rural surgical practice. In fact, I suggest that Dr.De learn from them the way of carrying on this struggle and start it in West Bengal. The other factual mistake is that "we have not yet found a satisfactory method of much needed rural surgical training...".Already about 25 doctors have completed the CRS course of IGNOU and sixteen are nearing completion in Karnataka. The DNB in rural surgery is taking off shortly. More of this will be discussed in our ensuing conference.

Regarding the IFRS formation. Our starting the move is already three years old. The entire house agreed on it when it was first discussed in our Delhi conference except Dr.De. We leave it to the readers to decide if we should go by the opinion of a single member or by that of the majority. It is because of this movement that we had surgeons from African countries, the DTC of Germany, Holland, and even US rural surgeons exchanging ideas in our conferences. Lack of health care facilities including surgical care is a worldwide

problem, and most of us refuse to be narrow minded and think only of our own state or our own country only. Specially while a large section of our breed across the world (including India) refuse to face this reality. It is because of this move that we see a colleague of ours, Dr. Kibatala aspiring to venture to form a rural surgery teaching centre in Ifakara in Tanzania.

I would therefore request Dr.De to actively participate from the floor in our symposium on "Updating concept of rural surgery" in the ensuing conference this year.

J.K.Banerjee

Making of a Rural Surgeon -Book review

Dear Sir,

With reference to the above mentioned article in April 2006 issue, I would like to bring to notice a point mentioned by the reviewer as regards Dr. Tongaonkar "going too wide in his fighting for causes". This is the basic difference between the city surgeon and the rural surgeon. The city surgeon can live a cocooned existence in the environs of his posh hospital, oblivious to the societal vagaries and misunderstandings and misconceptions which are the basis of so many of our health care problems. Being in the rural areas it is a unique opportunity as a member of an elite group to take on the obsolete ideas and practices among the people and eradicate the superstitious beliefs. Nobody can deny that these are the bane of society. Who better than the doctor in the rural setup to do the job? Moreover it can be considered as preventive healthcare. In fact the autobiography is an exhortation to all rural surgeons to be proactive and take up such issues where they can influence the people.

Dr. Milind Shah
Shirpur, Maharashtra 425405

Caesarean Section under local anaesthesia

This is with reference to the editor's comments on the page No. 12 of "Rural Surgery" Vol. 2, No. 2, April 2006.

Many of us have done LSCS under local anaesthesia with satisfaction in cases where they have been declared unfit for other type of anaesthesia. We have done gastrojejunostomy, hernias also under local anaesthesia.

Many of us in rural areas still practice spinal anaesthesia which is simpler to administer and the surgeon can give spinal anaesthesia and simultaneously operate on the same patient. Just a lumber puncture is made and the drug is injected for which no special effort is needed but monitoring by any of our friends in the thetre is sufficient and we are more comfortable with it than local anaesthesia.

It is always better that we have a Boyles apparatus and better we have the expertise or training to introduce the Endotracheal tube so that we can always save the patient in any type of anaesthesia, if they go for shock.

Dr. K.S. Ramalingam,
6 East Main Street, Chidambaranagar
Tuticorin 628008

Letter from Kenya

The Editor
Rural Surgery
P.O. Box 10830
Vill, Saidulajaib, Mehrauli
New Delhi 110030

Dear Dr. Baasu,

Thank you for sending me your interesting Journal. Indian surgeons are way ahead of us in Africa, in recognizing that the imitation of the West is perilous.

Dr. Tongaonkar's article astonishes me.

In my 42 years in Eastern Africa, I have as a part time flying doctor, operated in 120 'hospitals' in seven countries. Almost every one of those hospitals would have to be closed according to your clinical establishment act, whereby none of them was a 'private' hospital, all were government, missionary or agency institutions.

I wonder whether, the Government hospitals in India satisfy these requirements?

With the very best wishes for your journal and for the association, do keep showing us the way and eventually the establishment, western and local, 'teaching hospital' based, will come to realize the damage they caused to the third world.

Yours sincerely,

Imre Loefler - MD, FRCS
Editor, The Nairobi Hospital Proceedings
P.O. Box 30026 - 00100
Nairobi, KENYA

Thank you

In response to the appeal made to the members in April issue of Rural Surgery to donate any amount for the Bulletin fund, following members have donated for the same:-

Dr.J.K.Banerjee (Dehra Dun) - Rs. 5000/ -

Dr.S.K.Baasu (New Delhi) - Rs. 2500/ -

Dr Ram Kumar (Punjab) - Rs. 2000/-

Our new bulletin cover

Dear Readers,

Of late I have been receiving a lot of comments on the new art design for the cover of our ARSI bulletin. While some of the readers are appreciative of the new work, few others felt that the previous theme was more appropriate and the others were at best curios about the change.

I'd like to share with all of you, the thought process that went behind introducing this new concept.

Till last year, when ARSI bulletin's circulation was limited to India, I thought it was befitting to have an artists impression/ original sketch of ancient Indian physicians on the cover that would go with our broad theme of rural surgery.

However this year on, with the formation of IFRS since the bulletin has gone international, I thought it more appropriate to have sketches/ drawings depicting the ancient medical systems across the world.

Therefore in the last two issues and in the present issue, the artwork that you saw on the cover, reflected snapshots from the life and times of rural surgeons across the Arabic, European, Buddhist and Indian cultures.

I'd like to thank all of you for your comments - it reflects a keen sense of interest and involvement on part of the readers.

Your feedback/comments/ criticisms are always encouraging and welcome.

Warm Regards
Dr. SK Baasu
Editor

RNI No. DELENG/ 2005 / 16240

ASRICON 2006

Organized jointly
By
Association of Surgeons of Rural India (section of ASI)
(9th Midterm conference)
&
Association of Rural Surgeons of India (ARSI)
(14th National Conference)
In Association with
North Gujarat Surgeons Association

Venue:
Shanku's Water Park
Ahmedabad-Mehsana Highway,
Mehsana - Gujarat

Date:
25, 26, 27th August, 2006

Conference Correspondence:
Dr. Amir V Momin MS FICS
Sonam Hospital and Urology Center,
Doctor house, (near Bus stand),
Sidhpur-384 151, Dist: Patan (North Gujarat)

Second International conference of Rural Surgery
To be held
In
IFAKARA, TANZANIA
(Watch out this space for further announcement)

Printed, published and owned by Dr.S.K.Baasu, printed at Utkarsh Art Press Pvt. Ltd.,
D-9/3, Okhla industrial Area, Phase-1, ND.
Published from Rural Medicare Centre, Khasra no.242, Vill, saidulajaib,
P.O.Box no.10830, Mehrauli, ND-30 Editor Dr.S.K.Baasu