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## I N T H I S I S S U E

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# Rural Surgery in India

**Dr. R. D. Prabhu FRCS, FARSI**

*(Dr. R. D. Prabhu, president of IFRS, was invited at the National Congress of Surgeons of Germany held in Berlin from 22–25 April 2008. Following are his modified version of the presentation at the conference. The theme of the conference was "The surgical art of healing — from Empiricism towards Evidence")*

To understand the rural surgery in India, one needs to know something about the country and health scenario in it.

Our country can be described to be having two countries based on the class of people. One is that part of the country where

1. Four of the ten richest men in the world live,
2. 46 billionaires of the world live,
3. 100 of the Fortune 500 exist,
4. IT companies are thriving,
5. People move about in cars, and aeroplanes, and where
6. People are well educated and earn well above the national per capita income.

We call this part India; the people there have the very best health care available. The hospitals there offer latest techniques and technologies. Even people from developed countries come there for treatment.

Then there is the original India, which Dr. Antia liked to call Bharat, where

1. 60–70 percent of Indian population lives,
2. The poorest 250–300 million Indians are found,
3. Up to 40% of urban population lives and
4. One finds the bullock carts, old fashioned ploughs, malnutrition, illiteracy and ill health.

They have hardly 20% of the beds available in the country, 80% beds are in India. Thus they have very poor health care facilities.

Thus our country is a unique place with contrasts; the supersonic jet flies above and a

bullock cart rattles on the dusty road below. India promotes medical tourism for people from developed country, while a large section of population in Bharat is denied of even the basic health care.

Besides, and unfortunately, our country is one of the world's most privatized health economies. Private expenditure forms 80% of the total health expenses on health. The effect of this is shattering:

1. Hospitalisation needs on an average 58% of patient's total annual income.
2. Over 40% of the hospitalised Indians borrow heavily or sell their assets to cover medical expenses.
3. Over 25% of the hospitalised Indians fall below poverty line because of hospital expenses (Source–Rural Health Mission, A Government of India programme)

Unfortunately, hardly 20% of the surgical work force in India works in Bharat! They work as private practitioners, as Government surgeons or in a NGO hospital. Yet it makes one proud that there has always been a band of devoted surgeons amongst them, who are concerned about people in Bharat and make every attempt to reach these poor communities. For this they overcome the constraints by training their own nurses and technicians and providing only the basic facilities. In India we call these surgeons the Rural Surgeons. Some examples are:

Dr. George and Dr. Lalitha, both only MBBS, have voluntarily gone in to deep tribal area to offer basic health care and now offer surgery also. They found a place on the cover of Reader's Digest.

Dr. Tongaonkar couple, both qualified in surgery and anaesthesia respectively, went to a small hamlet and started surgical hospital in a small old building and now has a purpose built medical centre. Their son and daughter in law have joined them.

R.M.C.Hospital, Delhi is a multi-specialty hospital by Rural Surgeons, on the outskirts of Delhi. The cost of treatment here is a fraction of the cost of any other Delhi hospital.

The next two are perhaps shocking and rather extreme examples. But they show how

- a- Money decides the health care facilities, and
- b- Acceptable surgery may be performed even with not-so acceptable facilities.

Dr. De is a well qualified private practitioner surgeon. He performs all types of abdominal and even complicated gall bladder surgeries in his hospital. But he cannot afford even basic equipment in his O.T. Thirteen years ago I found that he operated on a wooden desk for operation table, with a operation lamp made of head lamps of a truck, an old fashioned suction pump that was not working. Because his earnings from poor tribal community that he serves were not enough to buy any of the basic O.T. equipments!

Dr. Sharma is a surgeon in a Government hospital from a poorer state in India. Fifteen years ago he had to perform tubal ligation without wearing gloves because his hospital funds could not buy a few 'extra' gloves. He even operated single handed to save a pair of sterile gloves for one more surgery!

Both these examples are not meant to be followed by everyone, but certainly prove that that acceptable surgery is possible in not so acceptable conditions. The academicians and consumer activists may look down upon such practices. For them the academic or text book surgery is the only surgery and all the

rest is unacceptable. They have always overlooked the needs of the Bharat.

But about 2000 years ago one famous sage, and considered as the father of Indian medicine, called sage Charaka, had realised the difficulties of the poor and had said:

***"Effective treatment without frills should be given to those who cannot afford the full treatment..."*** — Charaka Samhita.

What the Indian rural surgeons are doing now is exactly this; creating a new affordable surgical technology by cutting down the frills. This is perhaps why the declaration of *Alma Ata* prescribed the 'acceptable health care' leaving aside the 'best health care' mentioned in the Human Rights declaration of U.N. Perhaps it was a similar philosophy in your country that created the popular 'Volkswagen' (the beetle) for those who could not afford a Mercedes!

During the Golden Jubilee of A.S.I., in 1988, the then Vice President of the India remarked that surgeons do not go to the villages. Later that day there was a symposium to discuss what changes are needed in surgery in India to be able to achieve "health for all by 2000 AD". A rural surgeon panelist, pointed out that the only way to motivate a surgeon to go to villages was to give him special training so that he has confidence to work under the conditions in villages. The current medical education stresses heavily on the latest techniques and the use of the most modern technologies used in developed countries. Both are not available in rural hospitals. Besides, these increase the cost of health-care. Such education may be appropriate for India, but certainly it is not for Bharat. Academicians never recognised the existence of Bharat. Neither the medical institutions nor the leaders of Indian surgery have shown any inclination in creating rural surgeons. Needless to say we have not achieved the health for all by 2000 AD.

By nineties of last century the rural surgeons from different parts of India had become proactive. Soon after the 1988 conference, they came together. Their conclusions were:

1. Rural surgery is important for the health care of the 70% of the population of the country and so rural surgeons working in Bharat need to be encouraged,
2. The conventional general surgery must become multidisciplinary if it has to become rural surgery,
3. The rural surgeon must be available near to the homes of patients,
4. Technology must be affordable without altering the basic structure of the scientific surgery.

They formed the Association of Rural Surgeons of India (ARSI) in November 1992. This association devotes all its energy for the promotion of Indian rural surgery. The ARSI has shown that it is possible to offer good surgery at affordable cost. This idea and philosophy have established themselves in India and have spread to other nations too. Nigeria has already started an association of rural surgical practitioners. USA has surgeons who want to have a Rural Surgeons' Association. Your Society for Tropical Surgery (DTC) also has similar philosophy. Thus Indian rural surgery is going to other countries too.

One of the activities of ARSI is to encourage, popularise and even reward innovations and efforts that reduce the costs of surgery. This special award is called Antia- Finseth Award. Some of the awardees are:

1. Dr. Ghaisas who introduced an affordable ventilator that can be operated with electricity or by hands but without pressurised oxygen.

One patient with neurological disorder was on this ventilator for over three years in a remote village where power supply was very irregular.

2. Dr. Brahma Reddy who introduced the concept of using very cheap proline mosquito mesh for hernia repairs. This mesh has benefited thousands of patients.

ARSI has given opportunity to Dr. Shivade to introduce the idea of using hospital waste to produce bio-gas. ARSI is also recognising people working on the feasibility of producing eye-less sutures. Finally, ARSI itself favours revival of old surgical techniques that are relevant and cost effective.

Now the Government of India has shown fresh interest in rural health care; it has introduced the Rural Health Mission. Perhaps because of that, there is awareness that rural surgery needs separate training for the success of the mission. The National Board of Examination, in association with ARSI, has now introduced- on a pilot basis- an exclusive training course in rural surgery. This will give a post-graduate diploma - DNB Rural Surgery, the first of its kind. Now for the first time, in India, the rural surgery has become a specialty.

### Future?

Indian rural surgeons still have to address too many unsolved difficulties. For example, the state governments are introducing uniform regulations to control the corporate as well as rural hospitals. This is grossly unfair since this will only increase the cost of rural health care and may even close some establishments.

Secondly, the difficulties created by the new blood bank rules have not been solved yet.

Thirdly the medical and surgical postgraduate education has become so commercialised and costly that it is becoming difficult to expect doctors and surgeons to go to low income rural areas.

At the same time, the brighter side is that the health industry in India is trying to supply health care accessories at a very competitive cost, compared to that of the imported ones.

The poverty, which used to be 44% in 1980, is now only 26%.

Both these are helping the rural surgeons to introduce more facilities in their establishments at affordable costs. It would be a great achievement if such progress continues and enables all the rural surgeons to offer every thing that their urban colleagues do.

The great Indian industrialist, a Bharata Ratna J.R.D.Tata, had said:

***"No success.....is worth its while unless it serves the needs or interests of the country and its people."***

I am glad to say that Indian Rural Surgery indeed is one such success.

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### Information for DNB Rural Surgery Students

Rural Surgery Bulletin will be available for DNB, Rural Surgery students At a cost of Rs. 500/- (Rs. Five hundred only, onetime payment) during their entire tenure of 3 years course.

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# Inflammatory-retention cyst of parotid

By Dr. Sitanath De, FRCS, FARSI

## Abstract

A case of parotid swelling due to inflammatory retention cyst, a rare entity in a rural surgical clinic, is presented here. The case was presented to the author as an asymptomatic swelling of right parotid. Because of its rarity, its immediate problems of diagnosis and treatment, such a case aptly deserves closer study.

## Case Report

The patient a young lady of 15 years complained of a swelling over right parotid region of gradual onset over the past three months. Her grandfather was concerned because negotiations were underway for the girl's marriage. There was no past history of fever, intra oral infection, parotitis or allergic pharyngitis.

On clinical examination, the general condition of the patient was good. There was a soft cystic painless swelling of the right parotid gland of size of 7cm x 4.5cm. Fluctuation test was positive but transillumination test was negative. Facial nerve function was intact. There was no sign of local inflammation. The papilla of Rt. Stensen's duct, and its surrounding mucosa, right tonsillar fossa looked and felt normal. There was no cervical lymphadenopathy. A provisional diagnosis of Cyst of Rt. Parotid gland was entertained. (Fig.1 page no. 31)

To find out the nature of the cyst, the following investigations were carried out:-

1. F.N.A.C of cystic swelling revealed altered blood on aspiration. Smear showed blood and few cyst macrophages, suggestive of benign cystic lesion. No malignant cell, epitheloid cells or salivary epithelial cells detected.
2. U.S.G: A high resolution U.S.G of Rt. Parotid region shows evidence of a complex cystic mass of 7.0 x 4.9 x 5.6cm

size. The cystic mass showed evidence of multiple septations and local loculations. The margins of the cystic mass were regular. The septets showed minimal colour flow in Doppler study. A rim of normal parotid was seen at the periphery of the cystic swelling. Associated reactive lymph node enlargement was seen. The largest lymph node measured 1.5 cm. (Fig.2)

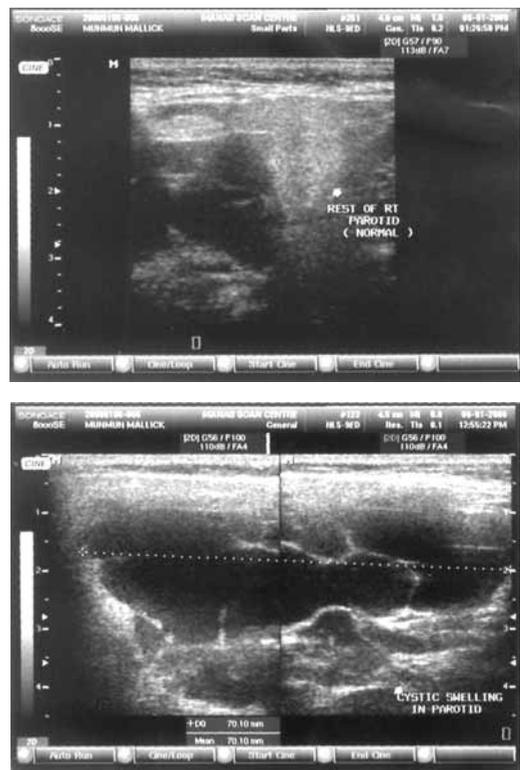


Fig. 2

Findings suggest a complex cystic mass in Rt. Parotid region.

The clinical findings and investigations strongly suggested chronic inflammatory cyst in Rt. Parotid which was benign in nature. However the cause of chronic inflammation remained uncertain. A decision was made to do an enucleation operation.

### Surgical procedure

Enucleation was performed under general anesthesia. During the procedure, cyst wall appeared dark in colour. There was a cleavage between the dark cyst wall and the parotid along which the cyst was enucleated with finger, care being taken not to injure facial nerve branches. The incision on the superficial surface of parotid was closed with intermittent 00 chromic catgut stitches. The skin was closed with 0000 atraumatic proline stitches without drainage. On cutting open the cyst, dark altered blood came out.

Stitches were removed on 6<sup>th</sup> post operative day. The patient developed Seroma post-operatively, which resolved after aspiration. There was temporary weakness of right angle of mouth.

*Histopathology report:* Section examined from cyst wall show almost denuded epithelium lined by chronic nonspecific inflammatory granulation tissue and focally by single layer of benign cuboidal epithelium, wall of which showed normal salivary gland tissue with evidence of chronic non-specific inflammation consistent with inflammatory retention cyst. No evidence of granuloma or malignancy seen (**Fig. 3 page no.31**)

### Discussion

When a young lady of marriageable age, accompanied by her grandfather, presents in a rural surgical clinic with a unilateral, soft, cystic, painless swelling with gradual increase in size and tells that the negotiation of her

marriage is on and asks for treatment, you have handful of problems.

The most obvious problems is the need to refer to the recent text books to refresh one's knowledge of the subject in order to be able to treat the case safely, without any recurrence and complication, that might jeopardize her marriage. This is a huge task with responsibility. My initial reaction was to refer the case to a specialized hospital, but the suggestion was refused with the question "why can't you do it here, doctor?" Having spent all the years of my practice, trying to deliver surgical care at the doorstep, I had to submit to their request. There was no difficulty in obtaining informed consent in spite of the possibility of facial nerve injury.

The second difficulty was the need to be sure that I was dealing with a non-neoplastic swelling of Rt. parotid, because some slow growing tumor like Adenolymphoma and few Adenocystic carcinoma may mimic retention cyst of parotid and present as soft cystic swelling.

Moreover, 99mTc pertechnetate scan is not available in the local area. Adenolymphoma can be diagnosed confidently, as this is the only tumor that gives "hot" spot in the scan.

The U.S.G with Doppler study report and F.N.A.C report strongly suggested benign nature of the swelling, which was confirmed by histopathological report.

Normally, the treatment of parotid swelling is considered to be a case for a specialist who is well trained in technique. A patient hand is required in this time-consuming operation. The author agrees with this opinion but the surgeon in rural practice may only see such a case once in every three to five years, and may find himself compelled to rely on his own clinical judgment and surgical skills.

# *A full term viable intra-abdominal pregnancy diagnosed on laparotomy (A case report)*

Dr. R.K. Garyali, MS; Dr. Veena Gupta, MD; Dr. Punitee, MBBS

## **Introduction**

Abdominal pregnancy is defined as an intraperitoneal implantation of pregnancy, exclusive of tubal, ovarian or inter-ligamentous implantation. Abdominal pregnancies are of two types: i) Primary abdominal pregnancy - It is very rare. Only 24 cases have been reported in the world literature. ii) Secondary abdominal pregnancy – More common, where the conceptus implants in the peritoneum, secondary to a tubal or uterine scar rupture. Abdominal pregnancy is a rare condition and rarely diagnosed preoperatively.

This condition usually goes undiagnosed and may present as a severe intra peritoneal haemorrhage. Abdominal pregnancy carries a very high risk of hemorrhage, disseminated intravascular coagulation, bowel obstruction and even fistulae. Implantation has been reported in the pelvic cul-de-sac, broad ligament, and bowel. The site of implantation and availability of vascular supply are believed to be the factors that may influence possibility of fetal survival.

Risk factors that may precipitate abdominal pregnancy include tubal damage, pelvic inflammatory disease, endometriosis, assisted reproductive techniques and multiparity. Patients mostly present with abdominal pain, nausea and vomiting, painful fetal movements and less frequently with vaginal bleeding. The condition is difficult to diagnose. However a raised alpha fetoprotein level, U/S studies demonstrating absence of myometrial tissue between bladder and pregnancy may give some suspicion to the condition. MRI holds a promise as a diagnostic aid.

## **Case report**

A 29 years old lady with breech presentation was admitted in maternity ward for an elective

LSCS. It was a precious pregnancy as she conceived after repeated abortions in the past. She was under care of a private practitioner and had a reasonably good antenatal care.

Her general physical examination was normal with acceptable haemoglobin level. She was normotensive. Her TORCH test, done in the early pregnancy, was negative. Patient had a history of severe abdominal pain with mild degree of spotting in her first trimester. She was treated conservatively at that time for threatened abortion. U/S studies at 9<sup>th</sup>, 17<sup>th</sup> and 37 weeks of pregnancy did not suggest much except for a viable fetus with a breech presentation. She was planned for LSCS under spinal anesthesia. However on opening the abdominal peritoneum, a full term live baby was seen enveloped in the sac on the left side of abdomen just above the broad ligament. The baby was removed; the placenta was seen adherent to omentum and coils of small intestine on the left side (**Photograph in page no. 31**). The placenta was separated and almost completely removed along with some omentum; the adhesions with the gut were not so deep and could be easily separated with little care. The peritoneal cavity was cleaned properly all the clots were removed. The uterus was found to be pushed to the right and was of 12 to 14 weeks size pregnant uterus. Left tube and ovary was not properly seen where as the right tube and ovary was normal. The peritoneum was closed with 2 '0' vicryl suture after putting an intra peritoneal drain. Abdomen closed in layers.

Post operative period was uneventful. After delivery baby had an Apgar score of 10/10

and the baby was healthy. Patient had post operative check curettage of her uterus. The patient and her baby are doing well and healthy till date, 2yrs after delivery.

**Summary:** A case of viable intra-abdominal pregnancy is presented, most likely secondary to a ruptured tubal pregnancy. A preoperative diagnosis was not possible in this case.

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K. Dahiya, D. Sharama: Advanced abdominal pregnancy; A diagnostic and management dilemma. J Ob. Gynaec. Surgery. 23(2)-69\_2007

Teng He, Kumar G, Ramli NM'A Viable sec intra abdominal pregnancy resulting from rupture of uterine scar: role of MRI British. J Radiology 80-955; 134-2007

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*(Abdominal pregnancies may result even from fallen fertilized egg into the abdominal cavity or from simple tubal abortion followed by subsequent reimplantation of the conceptus onto bowel, omentum or mesentery. Diagnosis is always difficult and depends on the sum of many clues, none of which is enough by itself. Persistent abdominal pain from mid trimester onward of variable severity, which is not well localized, ill-defined uterus (in reality the gestational sac), abnormally felt fetal parts which may be easy or difficult to feel, persistent abnormal fetal lie and all these often accompanied by the failure of her uterus to enlarge, presence of maternal intraperitoneal fluid may give the suspicion of intra abdominal pregnancy. In case of dead baby when it does not expel, either spontaneously or with oxytocin, the suspicion becomes stronger. The presence of abdominal pregnancy is associated with increased maternal morbidity and mortality; therefore, it is important to be familiar with the role of sonography in its diagnosis and the importance of immediate surgical intervention. It is unfortunate that in spite of repeated U/S, the sonologist failed to diagnose the condition in this case. In brief the U/S findings of an abdominal pregnancy include demonstration of an empty uterus adjacent to the bladder, absence of myometrium around the fetus, unusual fetal lie, poor definition of the placenta, and relative oligohydramnios.*

*Regardless of gestational age, removal of the placenta may result in severe hemorrhage. In this case the author is fortunate to remove most of the placenta without any hemorrhage. Quite often the placenta is left in situ after ligating the umbilical cord close to the placenta; involution may be monitored by serial ultrasounds and serum b-hCG titers. Use of methotrexate in abdominal pregnancy has varying degrees of success. — Editor)*

# Cutaneous horn forearm (A case report)

Dr. R. K. Garyali\* MS

Cutaneous horn (cornu cutaneum), though seen rarely, is a conical hyperkeratotic nodule resembling horn of animal, mostly composed of keratin.

Horns are mostly seen on exposed body parts, like face, hands, chest, nose etc. The famous sebaceous horn on the forehead of a lady of Paris named "*Dimanche*" illustrated on the front page of text Book of surgery by Baily and Love, is known to all who have read that book. Mostly they are of benign nature but very rarely premalignant or malignant lesions associated with this condition, are also seen. Because of this little chance of malignancy, the lesion needs to be widely excised and always should be subjected to histopathological studies.

The horns seen in the animals are superficial hyperkeratotic epidermis with a centrally positioned bone. However no such bone has been seen in the humans.

Most commonly horn is single and arises from seborrhic keratotic lesions. Horns may be associated with underlying benign conditions like Seborrhic Keratosis, viral

Warts, Histiocytomas, and Molluscum Contagiosum. It may also be associated with premalignant conditions like Solar Keratosis, Bowen's disease and malignant conditions like Squamous cell carcinoma, rarely Basal cell carcinomas, and sebaceous carcinomas.

## Case Report

A middle aged lady presented with raised, painless pointed swelling on her forearm (**photo in page no. 31**), with some degree of erythema around the base. No regional lymph node was enlarged. General and systemic examination was essentially normal. The lesion was totally excised and subjected to histopathological studies which ruled out any malignancy.

The recovery was uneventful.

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Saraf. S, Sebaceous horn; an interesting case, Ind. J.Dermt. 52:59-2007.

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## IFRS Section

### *Burns Units: An expensive luxury or essential advance?*

— *A prospective study of the fate of burns patients admitted to an African city hospital over a ten year period.*

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Zain Khalpey, BSc, MBBS, AFRCs.

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**Short title: Burns units in Africa**

*(Presented at the Centennial World Congress of Surgery in Brussels, Belgium 2001)*

#### **Abstract**

*(The majority of burns victims are seen in the developing world, where resources are limited and medical constraints are severe. Improvements in burn care have been seen in the establishment of dedicated Burns Units, but this option is extremely costly in material and manpower, and may not be feasible for most centres. A prospective study was therefore undertaken to examine the fate of patients admitted to side rooms of a general surgical ward in an African city hospital.)*

*Over a 10-year period, 1008 burn victims were admitted, slightly less than half being female. Distressingly large numbers (100) were babies less than one year old, and 58 were epileptics usually with deep extensive burn wounds. In addition there were 11 psychotic patients, 7 mentally retarded and 17 parasuicides. A total of 182 burns were first seen 72 hours or more after injury, and 335 referred from district hospitals.*

*There were 356 who required fluid replacement, and of these 74 were critical with extensive burn injuries.*

*Delayed split skin grafting was performed 303 times on 263 patients with acceptable results in almost 75%; early primary excision and grafting was performed, mainly for hand injuries on 72. Debridements were performed prior to grafting in 138. A total of 27 amputations of various kinds were necessary.*

*Average hospital stay was 24 days; but 244 stayed in hospital more than a month, and 95 more than 50 days, 29 more than 100 days. There were 86 deaths: all adults with over 60% and all children with over 40% total body surface area burn died.)*

#### **Introduction**

Improvements in burn care have been observed by the establishment of dedicated burns units with their own facilities and staff. This is a costly option which may not be feasible for many institutions in the developing world, where the majority of burn victims are seen.

A prospective study was therefore performed over a ten-year period to evaluate the fate of burn patients nursed in side rooms, or in the main parts of general surgical wards in Bulawayo, which is a referral centre for the Western half of Zimbabwe. The purpose of this study was to discover how burns care compared with centres where a dedicated

Burns Unit had been established, to examine the data to show if any community health preventive measures have been effective, and to make certain recommendations for improvement.

### Materials and methods

All burns patients, including road accident victims, who were admitted by one of two general surgical firms, were entered into the data collection from May 1989 till April 1999 inclusive. The following information was recorded:-

Name, Age, Sex,  
 Date of admission, Date of discharge/death,  
 Point of referral  
 Age of burn on admission  
 Area burnt, Percentage body surface area burnt, Depth of burn  
 Causative agent  
 Concomitant disabilities or Parasuicide  
 Procedures performed  
 Complications, Cause of death  
 Hospital stay

Patients were managed clinically along standard protocols, with fluid resuscitation using the Parkland formula. However, when children were admitted late (over 6 hours after injury) with extensive burns, Ringers Lactate was given at a rate of 20 ml/kg/hr. No colloids or fresh frozen plasma were used.

Systemic antibiotics were only given if the patient showed signs of hectic fever, preferably according to culture and sensitivity results; prophylactic antibiotics were not used.

Blood transfusion was given if the haemoglobin level was <7 g/dl when extensive debridement or skin grafting were contemplated; otherwise haematinics were given.

Deep burns were dressed with betadine or silver sulphadiazine (depending on availability) daily; escharotomy was performed for constricting circumferential burns. Surgical coverage was attempted for deep burn wounds when the granulation surface was ready, promoted if appropriate by debridement. This delayed skin grafting was carried out in stages, if availability of skin was limited. Tangential excision and early grafting was performed for deep hand and facial injuries only, because of the local risks inherent in blood transfusion required for extensive excisions.

Patients admitted for reconstructive procedures subsequent to their burn injury were not included in this study. Destructive amputations performed for gangrene or non-viability due to exposed bone and sepsis were, however, recorded.

### Results

There were 1008 patients in this study, of whom 453 (44.9%) were female. The ages ranged from 18 days to 92 years (median 8.5 years). A surprisingly large number of babies below the age of one year were seen; these infants had invariably been left unattended in the critical period. Some were asleep next to an open fire which had encroached onto their clothing; others were caught when blankets caught fire. Predictably high numbers of children were burn victims, often the result of overcrowded domestic circumstances. The relatively small number of elderly patients seen with burns reflects the age distribution of the population.

A total of 182 patients arrived more than 72 hours post burn injury, the degree of resuscitation having been given prior to admission variable and often unrecorded. There were 335 referred from district hospitals, usually for skin coverage. A further 358 came to hospital more than six hours post-burn even though they lived locally: this gives a total of 86.8% arriving late.

The parts of the body most injured were the limbs, but the perineum was found burnt as the main site of injury in 96, the face in 111 and the hands in 135. (This distribution can be explained by the fact that these patients were admitted as a matter of course.)

A total of 289 patients had burns greater than 10% total body surface area (tbsa), and 134 greater than 20% tbsa (median 10.9% tbsa). There were 53 in the severely critical group with between 31 and 60% tbsa burn. A total of 356 patients required resuscitative fluid replacement. Sixteen out of the 21 victims with over 60% tbsa burn were suicides. There were four respiratory burns, and primary burn injuries to the eye in three.

There were 365 superficial burns (36.2%), all but four from hot water; these latter arose from heat from an explosion flash. There were 643 deep burns (63.7%), almost all caused by fire or hot porridge. Of these 28 were caused by lightning strike. Six female victims were burnt by inflammable home-made floor polish (known locally as "cobra"), whose ingredients are candle wax, paraffin and coal tar. Seventeen patients doused themselves with paraffin and set themselves alight, usually after a domestic dispute, in a suicide attempt: all but one of these was referred from Mashonaland districts outside of Bulawayo. This phenomenon has been previously described<sup>1</sup>. There were 14 cases of assault in which the victim was doused by boiling water deliberately, and two where the victim was soaked with paraffin and set on fire. High tension electric burns were seen only in eight cases; industrial accidents caused injury to only seven more: the majority of the population was from rural areas and thus this distribution is seen. There was a large number (58) of epileptics: they tend to have a fit and fell into an open fire, the flickering of which may have initiated the attack. Unfortunately they are usually then left in the fire by onlookers till the epileptic fit has subsided, thus rendering them liable to

extremely serious extensive and deep charred burn wounds.

Seven patients were mentally retarded, and 11 frankly psychotic (these do not include the suicides, who had no such psychiatric history); only two were physically disabled (one blind, and the other an amputee).

A total of 303 skin grafts were performed on 263 patients; there were 138 initial debridements performed to facilitate optimization of the granulation surface for grafting. Early tangential excision and grafting was done for wounds of the hands and face in 72 cases. There was excellent take of grafts in 187 (61.7%), and more than three-quarter take in a further 39 patients. These wounds, a total of 226 (74.6%) healed satisfactorily without further surgical intervention. Failures were due to inappropriate movement in 37, sepsis in 30, and careless hasty removal of graft dressings in ten.

Escarotomy was performed in ten cases, and 27 amputations were necessary for gross deep burn injury, usually with exposed bone, constricting circumferential burn or electrical injury in 21 patients. A tracheostomy was performed for one patient with inhalation burns.

Complications, apart from wound sepsis and bronchopneumonia, were noted in 15 patients: contractures in nine, chickenpox in two, meningitis in one, glomerulonephritis in one, and haematemesis from stress peptic ulceration in two.

There were 86 deaths; the extensive burns were the cause of demise in 44. In a further 33, bronchopneumonia was responsible; three of these were patients with mental retardation whose respiratory efforts were poor, and one had cerebral cysticercosis. Another six were elderly over 60 years, and three were babies less than one year old. However the remaining 20 children had no obvious predisposition to

their developing pneumonia, although Human Immunodeficiency Virus (HIV) infection (among 30% of children) was likely to be a significant factor. Routine screening was however not done during the period of this study.

Septicaemia was directly responsible for death in eight patients: of these, three were babies of one year, and one of 6 months, and three adult epileptics, all with deep burns from fire. One psychotic patient developed septic pressure sores whilst in hospital, and one 56-year old lady suffered with necrotizing fasciitis after skin-grafting was performed for chest wall burns of 18% tbsa. She was HIV positive.

The total number of patient-days spent in hospital was 23387, giving an average of 23.2 days per patient. Patients (39 in number) discharged the day after admission, and not warranting in-hospital care, are excluded from this calculation, the median is calculated at 24.1 days per patient. However a total of 244 patients stayed more than one month in hospital, with 95 staying more than 50 days, and 29 more than 100 days. One 6-year old boy stayed 289 days, and one 9-year old girl 252 days!

## Discussion

The results of this study mirror that of a similar prospective analysis carried out in Harare by Mzezewa et al<sup>2</sup> with the difference that in Bulawayo there is no specific burns unit; rather patients are nursed on side-wards. Significantly, however, the results are no worse. Thus the expenditure on an expensive unit built along western lines may not be justified; especially when most patients arrive late (over six hours) post injury. Indeed, post-operatively, after skin-grafting, burns patients are routinely moved to the main ward to avoid cross-infection from other burn patients.

However, the expertise in managing burns should be capitalized and strengthened. The training of a specialist burns nursing sister has, in contrast, much to commend it. Cross-infection may be significantly reduced by the use of tin baths rather than porcelain tubs which chip and collect reservoirs, especially of pseudomonas.

Distressingly large numbers of epileptics continue to be seen *de novo* with burns, and the need for urgent community education is self-evident. This has recently attracted the attention of the higher echelons of the WHO. A less well-known hazard is the widespread practice of making home-made floor polish with paraffin, tar, and candle-wax mixture which becomes incandescent in the wrong proportions. Popularization of the construction, in the rural areas, of an elevated cooking area (known locally as a braai-place), as is found throughout National Parks tourist areas, may reduce the awful hazard of ground-level open fires. Without these measures, the spectre of burns is likely to persist in Zimbabwe, as no significant changes have been seen since a symposium conducted on the subject in Lusaka, Zambia in 1977<sup>3</sup>.

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### *Suprapubic Transvesical Prostatectomy for benign enlargement of prostate*

Dr. R. R. Tongaonkar MS, FARSI

#### **Introduction**

Benign enlargement of prostate causing retention of urine is one of the common emergencies a rural surgeon has to face. The definitive procedure for the condition is prostatectomy. Today worldwide transurethral resection of prostate (TURP), done endoscopically, is the method of choice.

What is the alternative mode of treatment for a rural surgeon who is either not trained to do this procedure or does not have equipment to perform it?

Alternative is open prostatectomy either done by Millin's retro pubic method (which is rather difficult to learn and do) or by Suprapubic Transvesical (Modified) Frayer's prostatectomy which is easier to do. This procedure was used by most of the general surgeons across the world but in recent text books of operative surgery there is hardly any mention about Transvesical prostatectomy and therefore it will be worth discussing here in details for our DNB (Rural Surgery) students.

*Indications and selection of patients for Transvesical Prostatectomy* - These are same as for any other prostatectomy but with some special precautions.

While selecting patients for Transvesical Prostatectomy it is necessary to choose a bigger size prostate, 50 grams or more, because a small size prostate or a fibrous prostate and a malignant prostate which is firm and irregular, cannot be easily enucleated blindly by finger as done in this method.

#### **Pre-op investigations**

Besides Ultrasonography, routine blood count, urine exam, blood urea, serum creatinine, blood grouping, cross-matching of blood, serum acid phosphatase and prostate specific antigen, to rule out possibility of carcinoma of prostate, it is necessary to do investigations for fitness for major surgery like cardiac fitness, E.C.G. etc because of the age.

*Pre-op preparation:* If the patient comes with retention of urine, it is necessary to relieve retention by either urethral or suprapubic catheterization till the patient is fit & ready for surgery. If the patient is taking anticoagulants or aspirin it should be discontinued at least one week before surgery.

*Anaesthesia* - Spinal or epidural anaesthesia is preferred.

#### **Operative procedure** (Salient features):

Urinary bladder is filled. This helps in pushing the peritoneum upwards and exposing the urinary bladder.

The surgeon stands on the left side of the patient.

Urinary Bladder is exposed either through a midline vertical or transverse incision. The incision in bladder can be either vertical or horizontal. Bladder wall is held with stay sutures or Allis Forceps.

If there are any calculi, they are removed. Any other pathology in the bladder, like tumor or diverticulum is noted, and action is taken accordingly.

Before starting the enucleation few things have to be kept ready. Besides good light, retractors, long Allis Forceps, sponge-on-holder, it is necessary to keep long roller gauze ready to pack the fossa, two suction canulas and suction rubber tubes in case one gets blocked due to blood clots.

To help enucleation of prostate, left hand index finger is put in the rectum which lifts the prostate and facilitates judging the size bimanually. To start enucleation, index finger of the right hand is forcibly passed in the urethra anteriorly, breaking the mucus membrane in the mid line. Then the finger is moved either to right side or left side making a plane of cleavage between the prostatic adenoma and the false capsule, the finger traverses from 12 o'clock position to 6 o'clock position separating the prostatic lobe on one side & then on other side, thus separating the entire adenoma which is then brought out either with finger or with Allis or sponge holding forceps. All this procedure takes hardly 2-3 minutes.

If the prostate is very large then each right and left lobes are brought out separately.

Once the prostatic adenoma is completely out, the fossa is firmly packed with long roller gauze. The assistant is asked to keep the pressure till the surgeon changes the gloves and the gown after washing the hands again.

After returning to operation table the packed roller gauze is slowly removed. Any visualized bleeding vessels are cauterized, ligated or transfixed or over-run using 2-0 plain or chromic catgut. Never use non-absorbable material like cotton thread or linen otherwise it can form a nidus for stone formation.

If a piece of prostatic adenoma or any irregular tissue is seen in the fossa then it could be removed after ligating the base with catgut.

Similarly if the prostate is very firm and fibrous and cannot be enucleated with finger then it could be at least partially excised with scissors.

Once the enucleation or excision of the prostate is over, and bleeding controlled reasonably, it is time to inspect the bladder neck. If it overhangs the prostatic cavity, then a posterior wedge from the bladder neck is cut holding it in Allis Forceps.

Now is the time to put in a No 22 Foley's catheter per urethra. Sometimes because of obstruction at the bladder neck the urethral catheter may not enter in the urinary bladder and has to be pulled with the help of a finger, sponge holding forceps or artery forceps. The balloon of the catheter should not be inflated at this juncture lest it might get punctured when suturing.

To reduce post-operative bleeding there are many modifications at this stage. Two of them will be described here. Both of them can be used separately or combined together.

With either 2-0 plain or chromic catgut on atraumatic round body needle, stitches are taken on either side of the catheter.

Alternatively a purse string suture is taken in the tissue around the Foley's catheter, the un-inflated balloon being pulled in the bladder holding the tip with sponge holding forceps. This stitch is little difficult but once tightened, it will help separating the bladder from prostatic fossa effectively. Any gap or bleeding points on either side can be closed by extra sutures on both sides of Foley's catheter.

Once the stitching is over the Foley's balloon is inflated in urinary bladder using about 30-40 c.c. of sterile water or saline and traction is applied for few minutes to see if there is any significant bleeding. Injection of Frusemide may be given at this juncture. Minor ooze will stop in due course of time with traction and clot formation in collapsed prostatic fossa. One other modification of inflating the balloon in prostatic fossa is not advisable and is more painful.

When it is confirmed that the bleeding is well under controlled the bladder is closed completely if a 3 way Foleys catheter was used or preferably with a suprapubic catheter, either a No 16 Foley's or a Nelton's catheter put for irrigation. This catheter should be put through a separate stab incision in the skin as well as in the urinary bladder. This will prevent persistent post-operative urinary fistula once the suprapubic catheter is removed. If it is Nelton's catheter it is necessary to fix it to urinary bladder by a purse string suture using catgut and to the skin by encircling a cotton sticking plaster strip and taking a skin stitch through it.

The bladder is closed in two layers using chromic catgut and wound closed with a suprapubic corrugated rubber drain kept in the cave of Retzius.

Post-operatively continuous normal saline irrigation is established to ensure that the urine is almost clear & there is no clot retention.

Appropriate antibiotics and required fluids are administered. If the blood loss is excessive, blood transfusion should be given.

The corrugated drain should be removed in a day or two. Suprapubic catheter can be removed once the urine is absolutely clear, may be in 3-4 days time and once it is confirmed that there is no suprapubic leak the urethral catheter can be removed.

### **Complications:**

*Bleeding:* Both intra-operative and post-operative bleeding, can occur. Because the enucleation is a blind process and unless the plane of cleavage between prostatic adenoma & false capsule, which is almost avascular, is correct, then bleeding can be massive if prostatic veins which are in true capsule are torn. Instead of trying to catch them it is better to keep pressure either by gauze pack or

Balloon of Foley catheter which usually stops venous bleeding. But it is necessary to catch a spurting artery and ligate it or cauterize it.

Fresh blood transfusion and an injection of coagulants like tranexamic acid or Ethamsylate may help.

Reactionary or even secondary hemorrhage can also occur.

*Post-op clot retention* — This is evidenced by red colored scanty catheter drainage, full tender urinary bladder, and strangury and may be falling blood pressure if the bleeding is massive.

The treatment is to evacuate urinary bladder by giving bladder wash by using either bladder wash syringe or Toomey syringe or preferably by cystoscopy if one has that facility. Reintroduce a bigger Foley's catheter & give good traction.

*Persistent suprapubic urinary fistula* — The main cause is obstruction to natural passage i.e. urethra & bladder outlet. If a urethral catheter can be passed easily there is usually no obstruction & few more days of urethral catheter drainage should help. If it persists cystoscopy is desirable.

*Urinary incontinence* — If the external sphincter is damaged then it is the worst complication (except the death of the patient) because there is no good treatment for this complication and the patient suffers for his life time. Fortunately this complication is rare in Transvesical prostatectomy as compared to TURP. Prevention is better than cure.

### **Conclusion**

Suprapubic Trans-vesical prostatectomy for a bigger size benign prostatic adenoma is a simple procedure which can be carried out in rural set up and it should be mastered by a rural surgeon

# Leprosy: A New Profile

Dr. Sunil Hamilton,\* Dr. Kartikeya Kohli \*\*

## Introduction

Leprosy is a disease with many dimensions. There are many diseases like Tuberculosis, Asthma, Mental Disorders (often called Insanity), Epilepsy, Sexually Transmitted Diseases (Syphilis, Gonorrhoea, Genital Herpes etc.), Vitiligo or Leukoderma, HIV/AIDS and Leprosy which have varying degrees of social stigma attached to them. But among all the diseases with negative social aspects or dimensions, leprosy is perhaps the worst. Patients of leprosy have been treated with abhorrence, dread, fear, ostracism and grave social deprivation. As a result many misconceptions and prejudices have come to be associated with it. Often sufferers from leprosy have been and often, are still being treated as if it is their own fault. Family members suffer socially as leprosy stigmatizes the family too.

## History

- ◆ Leprosy was recognized in the ancient civilizations of China, India and Egypt;
- ◆ The first known written mention of leprosy is dated 600 BC;
- ◆ The earliest absolute evidence of leprosy is seen in an Egyptian skeleton of the 2<sup>nd</sup> century BC and in two Coptic mummies of the 5<sup>th</sup> century AD;
- ◆ Throughout history, both in the East as well as the West, their communities and families have often ostracized the afflicted.

### *But the good news today is that*

- ◆ Leprosy is curable;
- ◆ Its treatment called MDT or Multi Drug Therapy, is available free at hospitals and dispensaries and PHCs;
- ◆ MDT is effective and gives sure cure;
- ◆ Widespread use of MDT has drastically reduced the number of cases of leprosy

across the world, most notably in India (from >3200000 in 1982 to 95212 in December 2007!).

## What is Leprosy?

Leprosy is a chronic communicable disease, caused by a bacterium (germ) called *Mycobacterium leprae*. It is related to the family of bacteria, which cause tuberculosis in humans, cows, buffalo's rats and birds. Leprosy bacillus or Hansen's bacillus was probably the first bacterium ever to have been discovered (in 1873 by Dr. Hansen of Norway, hence the name Hansen's diseases.) Since Hansen's discovery was accepted six years later, Robert Koch of Germany got credited with having discovered the first germ, the tuberculosis or Koch's bacillus in 1878 or thereabouts.

**Important thing to remember:** Leprosy is the least communicable of all infectious diseases (pneumonic plague is regarded as the most infectious)

- ◆ Leprosy is not a disease of modern industrial times (like Hypertension, IHD/Heart attack, Asthma, Diabetes, HIV/AIDS etc.) but has afflicted humankind from time immemorial (at least for 2 millennia);
- ◆ It affects the peripheral nerves (basically leprosy is a **disease of nerves**, and the disfigurement and deformities are mostly directly or indirectly caused by the nerve damage which takes place in the disease);
- ◆ **Other tissues** or parts affected in leprosy are **skin** and mucosae (inner lining) of the respiratory tract;
- ◆ Sometimes it affects other parts like kidneys, muscles, joints, testes, bones and the front of the eyes (especially during acute phases called **lepra reactions**);

- ◆ Eye involvement was quite common till about twenty-five years ago (1980) when leprosy was a frequent cause of blindness in developing countries; (other causes of blindness being: Cataract, Glaucoma, Injuries, Trachoma, Xerophthalmia, Onchocerciasis or River Blindness which fortunately is not found in India). The number of people with blindness due to leprosy stood at 1 million not very long ago;
- ◆ Thankfully, MDT had drastically and dramatically shortened the clinical course of leprosy, which used to run in decades. It seems to have ameliorated the clinical, bacteriological and epidemiological profiles of leprosy.

### Types of Leprosy:

For treatment purposes, there are broadly **two main types** of leprosy i.e. **mild type** (non infectious to least communicable) called paucibacillary/PB in which there are up to 5 skin patches and one nerve involvement, and **severe type**, called multibacillary/MB, which is disseminated, progressive, infectious type with more than 5 skin patches or even diffuse involvement of skin and at least two major trunk nerve involvement.

Some non-infectious type of patients can become infectious if they do not take treatment and infectious patients can be made non-infectious very quickly (within days) with modern treatment (MDT).

Type of disease will depend upon the state and type of (immunity) which a person has. In fact, the number of patches and nerves affected (i.e. the overall clinical appearance) depends upon the balance between the cellular immunity and bacterial multiplication.

### Source of Infection:

- ◆ Infected untreated human being is the only source of infection;
- ◆ There are no extra-human reservoirs of infection;

- ◆ An untreated PB case harbours up to 1 million bacilli, while in an untreated MB case there are about 7000 million (700 crore) bacilli per gram of multibacillary tissue. Thus untreated MB cases represent the main source of infection; hence they were sometimes called cases of consequence.

### Incubation Period:

(i.e. the interval of time between entry of leprosy bacilli in the body and appearance of signs of disease). Incubation period in leprosy is variable, indefinite, and long (hence it was also called latent period). It can be few weeks to several years. Youngest reported case was a two-month-old female child with MB (lepromatous leprosy) from Japan; longest recorded incubation period is 40 years. Majority of cases in India fall between two to five year periods of incubation. Incubating carriers are not known to exist in leprosy (in contrast to Typhoid, HIV/AIDS)

### Signs and Symptoms of Leprosy:

- ◆ Patch or patches on the skin, generally lighter in shade (not white) than the surrounding skin (early skin);
- ◆ Loss of sensation or inability to feel touch, heat and or pain in the patch, or in any part of arms or legs or affected areas;
- ◆ Thickening of nerves of arms and/or legs;
- ◆ Thickening, reddishness, shininess of skin (called infiltration);
- ◆ Small pea like swelling in the skin (called nodules);
- ◆ Deformities of hands, feet eyelids (claw hand, drop foot, lag ophthalmos);
- ◆ Painless ulcers or sores.

Leprosy affects nerves. Nerve damage results in loss of sensation, loss of muscle power and control resulting in crippling of hands and feet and paralysis (parasthesis, anaesthesia, paresis and paralysis). It has displaced poliomyelitis as the world's most crippling disease. There are about 3 million people

who are visibly disabled due to leprosy. Number of disabled individuals in India is about 1.5 million. Worldwide about 6% of patients already have severe disabilities at the time of diagnosis. Many more are at risk of developing disabilities because they have already suffered nerve damage or loss of feeling at the time of diagnosis.

### **How does leprosy spread?**

There is broad consensus among leprologists /leprosy workers that the germ is expelled by sneezing and coughing of advanced untreated leprosy cases and travels through air and spreads by inhalation of the bacilli by susceptible individuals much like tuberculosis, measles etc. (droplet infection/aerosol).

Most people (about 95% of the population) have good natural immunity against the germ because of which its entry inside the body will not result in establishing infection and infection will not progress to overt clinical disease in most cases. Only the miniscule percentage of the immunologically deficient (to this germ) will get the disease, reflecting a varying spectrum, ranging from mildest to severe disabling forms of leprosy, depending upon the immunity status.

Leprosy does not spread by touch and is not regarded as a contagious disease.

### **Is Leprosy curable?**

With modern treatment called MDT (Multidrug therapy), involving treatment with more than one drug (like in tuberculosis), leprosy is conveniently curable. More than 14 million patients have been cured with MDT so far since the start of WHO's global leprosy eradication programme using MDT. The duration of regular treatment lasts from six months for Paucibacillary (PB) to a year for Multibacillary (MB) cases.

Deformities of hands legs, hands and face can be corrected by reconstructive surgery (RCS); better still is to prevent them by timely diagnosis

and regular treatment. So prevention of disabilities is more important aspect of leprosy work than corrective surgeries. Prevention should start with the patient's early detection /first visit to the health care facility.

### **Where is leprosy found?**

Twenty-odd years ago (1985) leprosy occurred significantly in 122 countries of the world, mostly in Asia, Africa and South America as a significant public health problem. Leading among them were India, Brazil, Bangladesh, Indonesia, Nigeria, Nepal, Myanmar and few others. By 2002, the geographical coverage of MDT in our country had reached 100% and 2004 the global caseload had fallen by about 90%. Widespread implementation and use of MDT has cured more than 14 million cases in the world, India being the foremost beneficiary where more than 10 million cases were cured.

Our National Leprosy Eradication Programme (NLEP) has been a major success in reducing leprosy occurrence to very low levels. Though India declared as having achieved the target of leprosy elimination (a caseload of less than one per thousand populations at the national level) on 26th January 2006, it is estimated that new cases will continue to occur though in much reduced numbers. Few states like UP, Bihar, Jharkhand, Orissa, West Bengal and Delhi will have problematic caseload. The priority now shifts from elimination to care and prevention of disabilities.

### **Leprosy and HIV/AIDS**

AIDS/HIV infection is present in several parts of the world where leprosy is also endemic. AIDS depresses immune system. It was feared that it might cause susceptibility to infection and deterioration in the type of disease in individuals already infected with leprosy. Researchers have found that there is no evidence of this happening and that there is a lack of definite clinical association between HIV/AIDS and leprosy. This is in contrast to what is happening in the tuberculosis scenario vis-a-vis HIV/AIDS.

## About the program

With the advent of MDT, the National Leprosy Control Programme (NLCP) was redesigned and converted into National Leprosy Eradication Programme (NLEP) in 1983. In the early stages the caseload was high and there was a separate programme for its control with its infrastructure and exclusive staff called vertical staff. With the decline in caseload, the government of India (GoI) changed its policy to integrate vertical leprosy services into general healthcare. From 2002 onwards leprosy services are available in all Primary Health Centres (PHCs), urban dispensaries and hospitals involving general healthcare staff. MDT services are provided free of cost from these centers. This is a major and successful reform in the health sector.

National leprosy eradication programme has undoubtedly been a tremendous success. It has brought down the prevalence rate (PR) of leprosy from >57 cases per 10,000 population in 1982 to <1 case per 10,000 by December 2005. Present (December 07) national position is PR 0.63/10000, caseload 95212 (Source — GoI/Central Leprosy Division report showing State/UT-wise leprosy situation, dated 4th March 2008)

With the successful achievement of the target of leprosy elimination, the focus has now shifted to prevention of disability, provision of quality leprosy service throughout the entire country, further reducing the leprosy burden, strengthening referral and research.

A major component of the programme is disability prevention and medical rehabilitation (DPMR 2007–2012). Operational Guidelines for Global Strategy for Further Reducing the Leprosy Burden and Sustaining Leprosy Control Activities (WHO 2006–2010) have been endorsed by governments of leprosy endemic countries including GoI, International Federation of Anti-Leprosy Associations (ILEP) and WHO, which prepared the guidelines after

extensive and exhaustive consultations with all concerned partners.

## Future

Leprosy is no longer a hopeless, deforming and disabling disease. You can make a meaningful contribution to the control, elimination and eventual eradication of leprosy by:

1. Being properly informed about leprosy yourself and further helping to spread correct information on leprosy in the community;
2. Motivating people with leprosy or suspected signs of leprosy, not to hide but come forward for check-up;
3. Encouraging, helping patients to take treatment regularly and complete the prescribed course of MDT.

Although we may not see the last case of leprosy in the immediate future, it is undoubtedly possible to control and reduce leprosy burden. Needless to say, a holistic, multi-pronged, broad-based approach is to be supported. Government health authorities, NGOs, voluntary agencies, doctors, nurses, technicians, allied health professionals, social workers, politicians, public figures/icons, pharmaceutical companies, media and journalists have to be involved to make determined efforts to increase the awareness of the disease among the general public. This will help in further strengthening the implementation of standard MDT and sustainable quality leprosy services being provided through the General health Care System covering the entire country.

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## Letters to the Editor

### Rating of Rural Surgical Centers....

Apropos the paper published in our newsletter entitled "Rating of rural surgical centers by the ARSI: A proposal and its advantages" by J. Gnanaraj. We are grappling with this problem ever since the inception of the rural surgery movement.

Our association was born in 1992. Several surveys have been made of the working conditions of rural surgeons. Based on this and on the experience of the established ones, we have succeeded in persuading the National board to start the DNB course in rural surgery for doctors (after wading through the IGNOU experience and after fighting its legal battles). We are now taking the next step. That is to see the feasibility of starting a health worker training programme to be certified by our association for the paramedics of the rural hospitals.

The third item on the agenda will have to be to lay down a minimum facility list for a hospital to label as a "rural hospital" recognised by the ARSI. With the new legislations coming up in the different states, this is very important for our safeguard.

But I totally disagree with the concept of "rating" (like hotels). This will only enhance consumerism and will distance our weaker colleagues from the stronger ones. This will not be in keeping with the true spirit of rural surgery. Instead the stronger ones should help and promote weaker ones into providing higher technical services through logistic support.

In this matter, I am reminded of the following story (told by a Frederic Poyer in a website message named happiness is a voyage):-

"Sometime ago, in an Olympics of the disabled in Seattle, USA, nine athletes, all mentally or physically challenged, were standing on the starting line for the 100 metre race. The gun fired and

the race began. Not everyone was running but everyone wanted to participate and win. They ran in three. A boy toppled and fell, did a few somersaults and started crying. The other eight heard him. They slowed down and looked behind. Then they stopped and came back.....all of them.

A girl with Down`s syndrome sat down next to him, hugged him and asked "Feeling better now?" Then all nine walked shoulder to shoulder to the finish line. The whole crowd stood up and applauded, and the applause lasted for a very long time. People, who witnessed this, still talk about it.

Because deep inside us we all know that the most important thing in our life is much more than just winning for ourselves. The most important thing is to help others to win. Even if that means slowing down and changing our own pace.

A candle lamp can light another without losing its own."

As a founder member, I venture to say that this has been the philosophy of the ARSI. Let us not lose out on it now. Our aim is to reach out to impoverished populations across the world with appropriate care through networking and other means.

Yours sincerely,  
J.K. Banerjee  
Imm. Past President, ARSI.

I am a member of ARSI and would like to make the following comments and suggestions to the rating of rural surgical centers proposed in the April issue of "Rural Surgery".

Rural surgical centers should provide high quality surgical care with low mortality and morbidity in remote areas under the constraints of poor access to expensive infrastructure and low capacity of the patients to pay.

Remoteness should be one of the criteria. Distance from the nearest town will indicate access to facilities. The nearest town should also be graded. A hospital 25 kms from Delhi will not be as remote as another one 25 kms from Kohima.

Quality cannot be compromised because of remoteness. Mortality and morbidity figures for common surgeries should be the same as in other major hospitals. Risky elective procedures should not be attempted without adequate facilities.

Support infrastructure should be graded. An anaesthesiologist is needed if complicated surgeries are planned on patients with pre-existing medical disease. Nurses can work under a qualified anesthesiologist or trained doctor if volumes are large. Increased mortality and morbidity cannot be allowed if complicated surgeries are performed without adequate infrastructure. A good lab and reliable imaging facilities are also important.

Facilities for the patients to stay and eat are not the core function of the hospital. Many hospitals may have hotels in the neighborhood which can perform this function. Ambulance services may also be provided by local taxi drivers.

Innovation should also be given points. If new techniques are developed which provide safe and inexpensive alternatives without the need for complex infrastructure they make protocols more realistic in a rural setting. Publications should be peer-reviewed and applicable in a rural situation.

Complications should be promptly diagnosed and treated. For example, expertise should be available in-house in a remote hospital to confidently manage biliary injuries following laparoscopic surgeries or ureteric injuries following pelvic surgeries.

There should be good value for money. Sophisticated and expensive facilities in a remote setting only make the situation convenient for the rural rich who need not travel long distances to the nearest city. To benefit the poor who have no other option, costs must be low. This implies the total package cost inclusive of all medications and supplies.

Procedures should be rated as minor and major or graded A to E. Total surgical procedures may include abscess drainage and circumcisions and are not sufficiently descriptive. For a pediatric surgeon, an abdominosacroperineal pull through or esophageal replacement can be considered complex surgeries, for an urologist, augmentation cystoplasty, transplants etc would be complex surgeries. A list of all procedures done with numbers will adequately describe the total work done. Indications for these procedures should be ethical and universally acceptable.

I suggest that rating may be done on the following criteria:

Remoteness (distance from nearest city and type of city)

Total work done (numbers with description and indications)

Mortality and morbidity figures (descriptions of patients and procedures included)

Facilities available (personnel, equipment and infrastructure - bed strength)

Expertise (all procedures that can be done and the ability to manage complications in house)

Innovation (to be reported and judged by a panel)

Value for money (actual cost to the patient for standard surgeries)

With regards,

Dr. Vijay Anand Ismavel MS, MCh  
Makunda Christian Hospital,  
Karimganj, Assam

## *An appeal*

Dear friends,

I have been going to Gram Seva Trust, Kharel in South Gujarat since 2003. I usually visit there for a week, once in 4 to 6 weeks.

My stay at Gram Seva is always meaningful and encouraging thanks to the partnership of all our generous donors. Pride and joy with which all the members of our Health and Education Team carry on their services under the leadership of Dr. Sharmishtha Patil contributes a great deal towards our success.

Since children are any country's most valuable natural resource, we continue to concentrate on their health and education. Our children's projects encompass their entire spectrum from 'Conception through Adolescence' with special attention given to those under 3 years' old, pregnant women and lactating mothers.

We monitor health, nutrition and education of over 3,500 less than 5 years old. In addition, we offer free prenatal services to ensure safe deliveries and healthy newborns. Our Adolescent Program is conducted in small groups to educate, empower and provide them with some vocational training. Our ultimate goal is to have total physical, mental, emotional and spiritual health for the 31,027 children in our area, concentrating on the newborn to five-year-olds first.

In the year 2007 with the help of our valued donors, the services we rendered are: \*Under 5 years old: 3073 children were checked and followed. Of these, 99 were migrants and the rate of severe malnutrition in these children was 10.10%. In rest of the children the severe malnutrition rate ranged from 0.7% to 3.13% depending on the condition of the communities concerned. Our biggest drawback is the scourge of alcoholism in many of our communities in addition to Preterm Deliveries, IUGR (Intra-Uterine Growth Retardation), Cerebral Palsy, Adolescent Pregnancies, Tuberculosis and Congenital Heart Disease.

Though the process is slow and sometimes frustrating, it is certainly very worthwhile and extremely gratifying. I cannot say enough about the joy one feels in seeing these sad, malnourished and frightened children transform into happy, healthy and enthusiastic ones, ready to face and dream about their future tomorrows.

**"Every Child comes with the message that God is not yet discouraged of man!"**

— Tagore

\*Adolescent Girls and Boys: Health Education and counseling of 248 girls and 53 boys in our established groups were undertaken with Complete Health Check up including Haemoglobin, Sickle Cell Disease survey, Blood Groups and Immunization. Similar services were provided in 3 area high schools. One girl has been detected to have Rheumatic Heart Disease and is being treated and followed up for future surgery.

\* Hospitalization and Treatments: 536 children were hospitalized for medical and surgical treatments with 528 X-Rays, 92 Consults, about 850 Laboratory investigations, 122 General Surgeries at GST and 2 at Surat Hospital for Imperforate Anus. Vaccines: 875 MMR vaccines and 946 Hepatitis B vaccines were administered. Other required vaccines are provided by the Government.

\* Tuberculosis: 72 children under 5 years received treatment. Thalassemia: Three children come for multiple transfusions every 2 months for their disease. Pre-Natal Clinic: 791 women were cared for. 710 delivered and of these, 577 delivered in the hospital. 14 newborns needed care in the NICU.

\* Heart Disease Project: Under the expertise of Dr. Ratna Magotra and Dr. Khushroo E. Patel, to date we have diagnosed and investigated 98 Children for possible Heart Disease. Of these ECHO was done in 92 Children, some at Gram Seva Trust Hospital by Dr. Snehal Kulkarni, Pediatric Cardiologist of Wockhardt Hospital in Mumbai and some at Surat Heart institute. Congenital Heart Disease was detected in 40 and Rheumatic Heart Disease in 19 Children. Of these, 37 were advised surgery & 3 are being followed up for future surgery. Surgery was facilitated at Cardiac Centers of Surat and Mumbai for 16 children. Ten children have refused any investigations or surgery and one is inoperable. We have lost 8 children to follow up and 7 have expired.

\* Health Education programs: Night programs in selected villages — 81, Sessions during children's checkup — 12 and afternoon sessions in the villages — 51.

New Developments:

\* Fulwadis — Crèche: Two units have been established, each unit caring for 5 to 6 children 6 months to 2.5 years of age. We need about 20 more units.

\* Tuition Classes: Six New Classes have been started totaling 16 classes comprising of 421 students. We need to expand on the number of these units as we need at least 50 more classes.

\* Our most successful addition is the introduction of 40 locally trained Community health Workers (CHWs) in their respective village areas. They have made a big difference in our ability to successfully follow up and care for all our children and their mothers.

\* In addition, it is our cherished dream to have a Children's Home for our destitute little ones to Nourish, Nurture and Educate them. We will work very hard to fulfill that dream.

It gives me tremendous joy to be of service to these children and I feel blessed and extremely grateful for this privilege and opportunity offered to me. We need about \$3.00 per child per month. Please check our revised website [www.gramseva.org](http://www.gramseva.org) which also contains ongoing monthly news, Annual Report & Art Images for Donation.

With the very best wishes to you and yours for Peace, Harmony, Laughter, Love always

Very affectionately,

Ratna Magotra

Honorary Director, Cardiac Services E-Mail [rmagotra@vsnl.com](mailto:rmagotra@vsnl.com) Tel: 022 2550 1020  
[www.gramseva.org](http://www.gramseva.org)

Roda K. Patel

President, Gram Seva Foundation and Honorary Director, Child Health. 2030 Post Road,  
Northbrook, IL 60062. \* Tel: (847)564-2030. Email: [rodak@aol.com](mailto:rodak@aol.com)

***Ps: Please rest assured that all your hard earned money goes totally toward the welfare of our Gram Seva children. Thanks!***

## 'TRIBUTE'

### Abraham Colles (1773 - 1893)

(short biographies)

Dr. Sukumar Maiti



The very common fracture which may occur near the wrist when an elderly lady falls on outstretched hand is named after Abraham Colles the glorious son of Ireland. The deformity, displacement or the method of treatment described by him is timeless. In the pre-Listerian era he was one of the few outstanding surgeons during the period of. Astley Cooper, John Abernethy, G J Guthrie, James Syme, Benjamin Brodie and Aston Key who helped in progress of surgery in scientific spirit.

Abraham Colles was born in Millmount, Kilkenny, Ireland. His father was in charge of a family-owned stone quarry famous for producing Black Kilkenny marble. Abraham lost his father when he was only six years old. However his capable and devoted mother continued the family business and struggled to give good education to Abraham and his three brothers and one sister.

It is said that during his attendance at Kilkenny Grammer School, a flood swept away part of the house of a local doctor.

Abraham found an anatomy book belonging to the doctor in a field near his home. Abraham took the book to the doctor, Dr Butler. Butler told him to keep that with him. This incident influenced Colles' choice to take up the medical profession.

Abraham Colles studied in Kilkenny College, a famous school called then as "Eton of Ireland". When he was studying arts at Trinity College, Dublin in 1790 he also worked as an apprentice to Philip Woodroffe, a surgeon at the Dr Steevens' Hospital. In the year 1795, he received the Degree of Arts from Trinity College (University of Dublin). In the same year he also got the Diploma Licentiate of the Royal College of Surgeons (LRCS). He then went to study medicine at Edinburgh and received his MD degree in 1797. His doctoral thesis was on venesection.

From Edinburgh to London he walked - on foot for eight days to work with Astley Paston Cooper (1768 - 1841) the celebrity surgeon of England of the time. After a short period he returned to Dublin and joined as Physician at Meath Hospital and there he also taught anatomy and surgery. He started his private practice too. In 1799 he was appointed as resident surgeon at Dr Steeven's Hospital, the same hospital where he started his primary medical education for Diploma under his teacher Philip Woodroffe. He served the same hospital for the rest of his life for about 42 years until 1841. Once he wished to join Trinity College and applied for, when the chair of anatomy and surgery became vacant in 1802. Abraham Colles was hurt very much when he was ignored and Dr Hatigan, a less qualified man was selected for the post.

Colles had the honour of being elected as president of Royal College of Surgeons (Ireland) for the year 1802 at his age of only 29 years, and again in 1830 for second time. When offered knighthood in 1839, he declined.

He married Sofia Cope. The family was happy with eleven children; nine of them reached adult age. His oldest son alone followed his father and he also became the president of the Royal College of Surgeons of Ireland in 1863.

Abraham Colles was generous and modest. He was a cool and dexterous surgeon. He took great interest in anatomy and spent much time in dissection room. He described the superficial perineal fascia (Colles Fascia) and published a book entitled Surgical Anatomy in 1811. He was a great innovator in topographical anatomy. He did appreciable work for the treatment of club foot. The fracture at wrist with which his name eponymously



Lateral view of Colles Fracture



A-P view of Colles Fracture

associated was described in Edinburgh Medical and Surgical Journal in 1814 decades before X-ray came into use (1895). Credit went to him for successfully ligating the innominate artery for the first time. He was successful in ligating subclavian artery several times. Brilliant works of Abraham Colles and also those of other stalwarts at Dublin viz. Graves, Stokes, Cheyne, Corrigan, Wallace and Adams made the place famous and attracted students from all over the world.

Colles also took interest in syphilis which was something of scourge in his time. He observed that "a child infected with syphilis at birth never caused a lesion on the mother's breast .... will infect the most healthy nurse" He concluded that the child while at utero has given immunity to the mother. This has since been known as Colles Law.

This observation was stood mistakenly for almost 70 years until it was refuted and proved wrong by Wasserman. Wasserman proved that the mother was already infected and the disease was transmitted to the baby while at utero.

During most part of his life Abraham Colles suffered from bronchitis, diarrhea and gout. He suffered from heart failure during his last

years. Because of failing health he resigned from his position at Dr Steeven's Hospital in 1841 and died on 6th December in the year 1843. He received the state funeral.

Abraham Colles of Dublin, Ireland was famous for his unique and detailed description of fracture at wrist and superficial fascia of the perineum. He was also a brilliant and successful vascular surgeon.



Fig.1 from page No.5 Cyst of Rt. Parotid gland

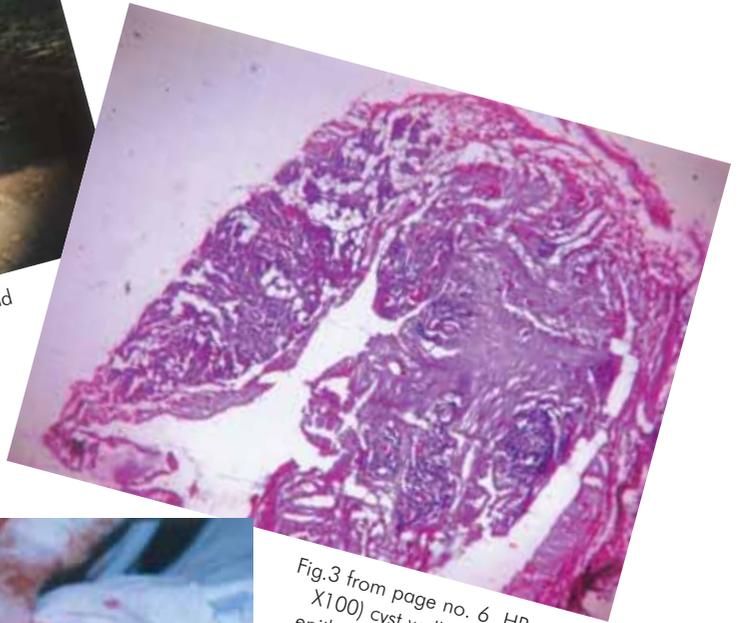
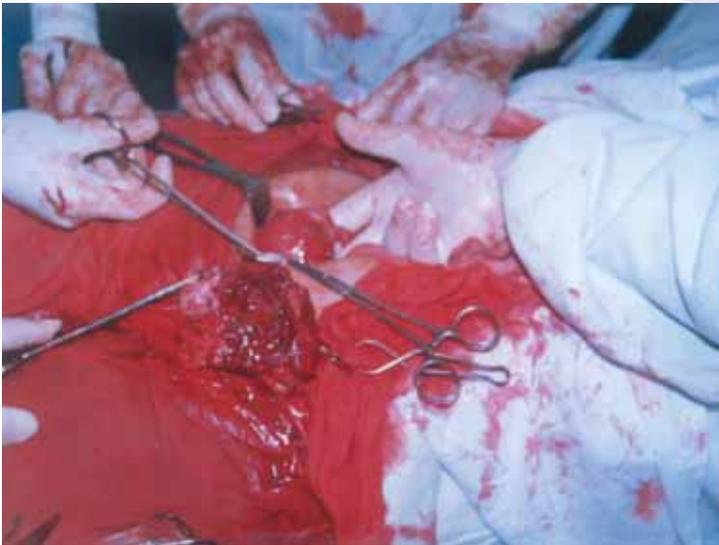


Fig.3 from page no. 6 HP section (H&E X100) cyst wall show almost denuded epithelium lined by chronic nonspecific inflammatory granulation tissue and focally by single layer of benign cuboidal epithelium, wall of which showed normal salivary gland tissue with evidence of chronic non-specific inflammation consistent with inflammatory retention cyst.



From page No.7 Photograph showing uterus, left ovary and placenta adherent to omentum



From page No.9 Sebaceous horn



## Dr. Antia- Finseth INNOVATION AWARD- 2008



Association of Rural Surgeons of India offers Antia- Finseth Innovation award of Rs. 10,000/- for any innovation that is useful for rural health care. The Innovation may be equipment, procedure or even a concept. However the primary requirement of the innovation has to be its usefulness in rural surgery (Rural health care). Innovator may be medical, paramedical or non-medical person. Applications are invited about the innovation with following details:

1. Brief abstract of the innovation. (About 300 words)
2. Novel features of the innovation.
3. Advantage over the known alternatives.
4. Detailed description accompanied by diagrams, drawings, photographs. neatly labeled.
5. Complete bio-data of the innovator along with photograph.

### Terms and conditions

1. Awardee has to present his work at the annual conference of ARSI to be held at Wardha, Maharashtra and receive the award.
2. Award will not be given in absentia.
3. Decision of the selection committee shall be final.
4. Besides award money of Rs. 10000/-, the awardee will be paid for travel allowance and accommodation maximum up to Rs. 10000/-.

**One copy of the application has to be sent to each to the following persons:**

Dr. K. C. Sharma  
President, ARSI  
Chairman,  
Award committee  
1, Trikuta Marg,  
Udhampur, J & K  
Pin-182101  
drkcsharma@rediffmail.com

Dr. R. D. Prabhu  
President, IFRS,  
Member,  
Award committee  
Shree Dutt Hosp.  
Tilak Nagar, Shimoga  
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Dr. B. D. Patel  
Hon. Secretary  
Sushrut Nursing Home  
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sushruthosp@rediffmail.com



**Last date of submission of application for the award is 31<sup>st</sup> July 2007**

