ARSICON-2008
16th National conference
of
Association of Rural Surgeons of India
15th, 16th, & 17th November 2008

Organized by
Dept of Surgery
Mahatma Gandhi Institute of Medical Sciences,
Sevagram, Dist. Wardha 442102, Maharashtra

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017152-284341-55(15lines) Ext 271, 381
Deadline for submission for abstract: 15th October

For circulation to members only

Printed, published and owned by Dr. S. K. Baasu, printed at Utkarsh Art Press Pvt. Ltd.,
D-9/3, Okhla Industrial Area, Phase-I, New Delhi.
Published from Rural Medicare Centre, Khasra No. 242, Vill. Saidulajaib,
P. O. Box No.10830, Mehrauli, New Delhi-110 030, Editor: Dr. S. K. Baasu

Designed & Produced by
Macro Graphics Pvt. Ltd.
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Introduction
It would be pretentious to dignify this piece with the title of a "scientific" article — it is more of a narrative. However, through it the author would like to pay tribute to Sushruta the father of surgery, as also to an unknown Indian surgeon working in a remote part of Africa who had the pride and courage to go back to the distant past of Indian surgery.

Key words: Sushrutha, ghee and honey dressing, wound healing.

In September 1991 I was in Kenya for a laparoscopic cholecystectomy workshop which coincided with the Annual East Africa Surgeons Society meeting. At that meeting I heard a talk by Doctor Gadvi, a surgeon practicing in Kenya, on the surgical approach to the prostrate as described by Sushrutha. I complimented him on his stimulating talk and asked for the source of his lecture. He informed me he was originally from Saurashtra, was a Sanskrit scholar and had translated the works of Sushrutha from the original. When I asked if there were other interesting subjects he had translated, he replied there were, but one with tremendous practical value in the setting in which he worked, a small town 70 kms from Nairobi, was what he termed "Ghee and Honey Dressing" — (ghee — clarified butter made from the milk of a buffalo or cow, used in Indian cooking.) When he described it to me he was originally from Saurashtra, was a Sanskrit scholar and had translated the works of Sushrutha from the original. When I asked if there were other interesting subjects he had translated, he replied there were, but one with tremendous practical value in the setting in which he worked, a small town 70 kms from Nairobi, was what he termed "Ghee and Honey Dressing" — (ghee — clarified butter made from the milk of a buffalo or cow, used in Indian cooking.) When he described it to me I found his concept somewhat ridiculous but masked my thoughts and asked him how ghee and honey could be used to dress wounds in an environment filled with flies and insects. His answer was as simple and direct as the man — if you are really interested, come and see.

Next day I went over 70 kms of rough terrain and saw. I was far more humbled and awestruck by what I saw than I was seeing intricate robotic surgery. He had successfully made an efficient workplace from primitive facilities and equipment. Of many things I saw I will devote myself only to ghee and honey dressing. Ghee and Honey Dressing according to Dr. Gadvi, as described by Sushrutha, is ideal for all wounds specially all infected wounds. His ward had no shortage of infected wounds — after injury, after animal bite, after surgery. One part of pure ghee to two parts of pure honey (both of which were abundantly available to Dr. Gadvi) warmed, mixed. Gauze pieces, pre-cut to required size, were then placed in the mixture and were impregnated by the ghee and honey. After cleansing the wound with water (normal saline when available) the gauze impregnated with ghee and honey was spread on the wound and covered with a light bandage. There were flies and insects all over the place. One would have expected the maximum number would be over the ghee and honey. To utter amazement there were no flies at all on the ghee and honey dressing. Instead of being an attraction as one would expect, the dressing acted as a repellent! I was shown wounds in various stages of healing — fresh to almost completely healed. Ghee and honey was the mainstay of treatment, antibiotics (when available) for recalcitrant wounds. That morning was a priceless lesson in wound healing and a glorious tribute to Sushrutha. Infected necrotic wounds were desloughed, cleansed, granulating with this dressing. And perhaps the most amazing aspect, wounds several inches wide healed with perfect skin approximation without suturing. My disbelief was such I took three ward rounds to
convince myself there was no trickery. I was convinced.

**Personal experience:** From November 1991 ghee and honey dressing has been used for infected/non healing/diabetic (yes diabetic) wounds in various Hospitals in Mumbai, at the J. J. Hospital, Parsee General Hospital, Breach Candy Hospital, Hinduja Hospital, Cumballa Hill Hospital and is in use till today.

**Material and method:** Dr. Gadvi had stressed that the ingredients must be pure. To standardize the procedure our dressing is made out of Amul ghee and Australian honey, in the correct ratio (Indian honey is excellent but we wanted one standard uniform ingredient). The impregnated gauze is autoclaved in a box, and refrigerated. It is kept at room temperature for an hour before use to ensure the gauze is soft and pliable. Asepsis is maintained. To ensure uniformity, all ghee and honey dressing for all Hospitals are made under the supervision of the Theatre Superintendent at the Parsee General Hospital Mumbai (at no extra cost to the patient). This dressing has, with informed patient consent, been used over 17 years for scores of patients with all varieties of infected wounds in all social strata from the poorest to the richest. These include infected burns at the J. J. Hospital, primary and post-surgical infected wounds in all hospitals, and (to the agony of physicians), on diabetic wounds, with no impact on their sugar levels. Culture swabs for organisms and sensitivity are taken before starting the dressings. The shape, size and surface (for clefts, crevices, extensions) is mapped out and measured. The wound is cleansed with saline and hydrogen peroxide and then again with saline. Two sheets of impregnated gauze are placed on the wound, tucked gently into the crevices if any to obliterate dead space. Dressings are covered with sterile gauze and gently strapped/bandaged in position. Dressings are changed every two days initially, every three to four days as healing progressed. Time for complete healing is recorded.

The results have been gratifying in terms of quality and time taken for healing. A special merit in post-surgical wounds is that there has been no need for secondary suturing — the margins come together in a soft smooth scar. The majority of patients are treated as outdoor patients. The reader for sure, is as incredulous and full of doubt as I was when Dr. Gadvi first told me about this dressing. The proof of the pudding is in the eating. I would urge all surgeons with initiative to give their patients the benefit of this simple, safe procedure. As John Hunter wrote to Edward Jenner on 2nd August 1775 before the first small-pox vaccination — “Your solution is just. Why think? Why not trie the experiment?” Fortunately there was no Evidence Based Medicine then, for which uncountable millions, over centuries, and today’s entire world population, have reason to be grateful.

How does ghee and honey dressing help wound healing? I do not know. But as one sees the changes in the wound evolve one could postulate five distinct actions:

1. Desloughing. Necrotic tissue is digested/destroyed by? enzymatic activity
2. Bacteriostatic/Antimicrobial activity. Antbiotic therapy is infrequently required.
4. Contractile/Fibrotic action. Widely separated edges of infected surgical wounds are drawn together and approximated obviating the need for secondary suturing.
5. Rapid epithelisation leaving a spontaneous supple scar.

Unfortunately ghee and honey dressing, over the last seventeen years, as described here, was done as part of individual patient care and not as a scientifically controlled study. Having
poor statistical data, spread over 17 years and in various hospitals, it would not stand scientific scrutiny. The simple ghee and honey dressing could be a good research project. Sadly research on matters as simple as indigenous surgical dressing are too infra dig for our National Medical Institutions, though they have been respectfully reminded that research that does not pertain to the needs of a developing country is unethical(1)(2).

Why has this never been written on before? Whenever ghee and honey is mentioned to colleagues there is a look of tolerant ridicule in their eyes as was seen, before, when diagnostic laparoscopy in surgery was first mentioned to them in the early 1970s. They felt ghee and honey dressing was degrading surgery. Recently a lady with a non-healing post-caesarean wound of over two months came from Singapore to Breach Candy Hospital. When her wound was fully healed, without secondary suturing, she asked for some literature on ghee and honey. When explained it had not been written on she said with disdain "You must be a coward".

Two thoughts arise from this
We work in a milieu that bows to the dictates of "Western Medicine". Evidence obtained from centers like Mayo, Cleveland, Mass General goes into defining Evidence Based Medicine to which it is mandated we must faithfully, blindly and dutifully adhere. Evidence Based Medicine has several advantages. However, abjectly, unthinkingly and spinelessly kneeling at the alter of Evidence Based Medicine inhibits surgical initiative, congeals the courage to try something new one believes in, dampens the urge to push the edge of the envelope. Can we not create an evidence based medicine which could not only apply to but also encourage innovation in the conditions applicable to rural India?

Dr. Gadvi sadly passed away in a road accident in Kenya a few years back. A surgeon Sanskrit scholar is no more. The Sushrutha School of surgery evolved over centuries. Can this country not generate the funds and the pride for a Foundation which will study, scrutinize and translate the gems of medical thought lying buried in our past? Certainly we surgeons should turn to Conferences, journals, the internet for future progress, for our thrust should be to reach for the stars, but would that be enough reason to ignore and disown our treasures of the past from which we could possibly derive a wealth of "new medicine"?

References
1) T. E. Udwadia, Surgical Care of the Poor - Indian Jour. of Surg. 2003, 65:504-509.

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Over the years the concept of rural surgery has been widely accepted and established as a specialized medical field in many countries. Today most of the developing and some of the developed nations, with their tightening financial situation and over burdened health care cost, have accepted the principle of rural surgery as a means to bridge the widening gap that exists between the need for surgical and medical care and the available resources. There can be no second opinion that in today’s world “need based” rural surgery can bring a positive change in health care delivery system and thus to the society. Hence there is a pressing need for propagating the concept of "Rural Surgery" widely.

Despite severe resource constraints, rural surgeons all across continue to provide essential medical and surgical support to the communities living in rural areas. These circumstances make them “jack of all”, force them to innovate, sensitize them to local community's needs and acclimatize them to the community's culture and social belief. The enormous experience gained in turn helps them in providing basic and appropriate surgical care to the rural community in a humane way at affordable cost and with easy access. For them, rational use of technology and optimizing the treatment for suiting the need of rural folks remains the key to providing appropriate surgical care at a low cost.

The enriching experiences of rural surgeons working with limited resources, their innovative methodologies and cost effective approach at the door step of people, the stories of their struggles and problems of the local community — are just few of the numerous important issues that need to be documented and shared with fellow surgeons. This body of work will not only be a tremendous learning opportunity for others, but would also act like a stimulus and encourage the surgeons working in rural areas of other developing nations.

Unfortunately most of the rural surgeons working in remote areas the world over hardly have the means to document, highlight or share their work. They do not have access to any library or other medical literature. Added to this, they do not have the resources to hire high cost statisticians for documenting their research, sophisticated labs to support their findings or even a team of experts that will help them in putting together their work in Vancouver style and match up to the standards set by the western world for acceptance of papers for publication in their journals. Unfortunately, their work, collated together in simple format, finds few takers in established medical journals.

So how can we document these important issues and ensure that their voices are heard?

The objective of professional medical journalism should be to create an impact on the society and its health system through its readers (who are professional themselves).

Sadly, present day’s western world’s type of medical journalism has created a self limiting boundary and showed total indifference to these important issues of rural surgeons. Today many of the medical journals are bought-or at least cleverly used-by the pharmaceutical companies as their own mouthpiece. Their industry dominates health care. The industrial greed and profit orientation is fast emerging as a parasite on
the development of high-tech professional care across the medical world.

The experience of rural doctors, mostly in the form of clinical observations, the outcome of their innovative interventions as well as the long-term outcome of their creative efforts on society find no place in western journals due to their publication bias. In other words, doctors reaching out to the 5 billion population of the developing world with limited resources do not benefit much from these journals.

Hence the need of the hour is appropriate “need based” medical journalism that will help towards highlighting the relevant issues leading to improvement in overall quality of health care and not the kind journalism that thrives by twisting facts and helping pharmaceuticals players in amassing profits.

We, as rural surgeons, need a suitable journal to serve our purpose. We don’t need to comply with the requirements of the Vancouver style propagated by various indexing agencies. Our aim is to reach out to each and every rural practitioner.

As a solution to this problem, Association of Rural surgeons of India started its newsletter cum bulletin "Rural Surgery", 16 years ago. It is carrying on this task by highlighting the works of rural surgeons and various social and health issues related to this field since the time of its inception. This work was initiated by Dr. J.K. Banerjee, the then editor and immediate past president of ARSI, persuaded and nurtured further by Prof. V.K. Mehta and finally volunteered and carried by myself till date.

The interactive letters from the rural surgeons and their replies, the unusual case reports and findings, the infrastructure deficiencies leading to innovation are some of the very important issues which are continuously being highlighted in this newsletter. The letters to the editor and their prompt replies make the rural surgeon feel that their voices are being heard, that they are part of the movement and help them in resolving their queries. In a situation, where there is no access to any form of literature, reporting of interesting cases managed in a cost effective innovative manner, increases the surgeon’s knowledge and gives them the necessary impetus and courage to manage such cases in their own set up. At the end, all this results in a better and cost effective health care for the community.

While this bulletin is playing its role to promote “need based” journalism, several of our most venerated scientific journals have recently been besmirched by allegations of scientific misconduct. ["Medical journals are an extension of marketing arms of Pharma companies" – R. Smith, PLOS Med 2 (2005); "Ghost marketing: pharmaceutical companies and ghost written Journal articles" — Perspective in Biology and medicine vol. 50 no.1 2007 p 18-31; "Medical Journals and Pharmaceutical companies: uneasy bed fellows" – Richard Smith-BMJ, 2003; 326:1202-1205, (31st may)]

John Abramson’s article in Los Angeles Times (Jan 7, 2006) titled "Drug profit infect medical studies" mentioned three quarters of the clinical studies published in the three most respected medical journals (The New Eng. J.med, j Am Med Assoc, Lancet) as being commercially funded and serving the interest of pharmaceutical companies. Closer home, recent reports of plagiarism charges on an AIIMS professor (HT, New Delhi, Oct 22, 2007) are tantamount to kidnapping in the field of medical journalism. Therefore scientific and medical stories published in the journals today are cop stories, they are court stories, and they are political stories, and especially lately, they are corruption stories.

All these certainly do not help our medical knowledge to grow in the direction that best improves our health but it definitely benefits...
the corporations by growing their profits —
the cost of medical care continues to soar —
health suffers!

There is no second opinion that Health has
become the most important topic today.
News paper surveys suggest that health care
and health issues, science and medicine are
amongst the top ten areas of interest for the
readers. Therefore it is the need of the hour
to dive into this "need based" medical
journalism or at least to extend your helping
hand for its support. You can highlight the
real issues pertaining to health through this
approach. Let us therefore strengthen this
effort by contributing and sharing our
experiences, either in the form of articles,
case reports, conference proceedings,
relevant journal scans or letters to the editors
and news of importance to rural surgeons
from across the world. We need to have the
courage to highlight issues which many of our
colleagues would just dismiss out of hand. Let
us aspire to transform this bulletin into an
International Journal of Rural surgery.

By doing so we may not be writing about
major research campaigns but certainly we
will be doing what is much more meaningful
and relevant.

The professionals working in smaller towns,
be it the nurses and doctors battling the
health problems of a community as they
provide low cost health care for the
marginalized people or health statisticians
that are truly counting the prevalence of the
disease — they all feel the need to be heard
and the need to communicate. They value the
chance to do good where they are, more
than the value of their pay cheque.

If the ultimate aim of all intellectual pursuits is
to benefit humanity at large, this type of
writing by the rural surgeons may not be
perfect but is a more meaningful and
important piece of work than the intellectual
and so called scientific papers adored by the
western world. Having said so, I may tell you
that rural surgeons are always open to the
knowledge of new discoveries, exploring new
technology and information related to
medical science provided in these journals so
long that it truly helps the common man.

If the mission of propagating the concept of
rural surgery has to achieve success, we need
to strongly support "need based" medical
journalism. If hundreds of e-mail queries,
personal letters to the editor and expression
of keen interest by the surgeons both from
other developing nations as well as from
various part of India to join the movement is
any indication to its need, then I may tell you
that so far "Rural surgery" bulletin has been
extremely successful in spreading this concept
by helping the members from diverse
backgrounds to connect with each other and
share their experience.

Publilius Syrus, the former Syrian slave who
later on became a celebrated philosopher in
ancient Rome said "nobody knows what he
can do till he tries". We can do more than we
think, because in the final analysis we all are
the prisoner of our perceptions. And those
perceptions are changing fast with time and
circumstance.

With this conviction I strongly feel that our
effort and your support put together, could
give a new direction to medical journalism,
advantage of which will go to the
beneficiaries we profess to serve. And that is
our patients.

The final question is whether this is worth
doing. And again, with absolute confidence,
I can tell you it is. Let's do it!

("Editor, "Rural Surgery")

(This paper was presented at 2nd International
conference of IFRS, held at Ifakara, Tanzania)
In today’s world, high tech and ‘state of the art’ are metaphors usually associated with the setting up of hospitals in large cities. This, notwithstanding the fact that “state of the art” technology invariably gets attached with a heavy price tag for the user and debars a large population of our country from availing any benefit out of such a facility. Even the doctors working in such hospitals are under constant pressure from the management to give a higher turnover of patients. And as a result, they are often forced to resort to unethical practices for their survival in such an atmosphere.

On the other hand, peripheral government hospitals are often ill equipped and ill staffed mainly due to financial constraints, and the doctor here is often forced to take the patient outside for better quality of service again at the cost of his reputation or end up providing substandard care.

Against this background, a number of doctors are today practicing either through voluntary organizations or on their own setting up small hospitals with limited resources and backed up by their innovative skills. These are situated in periurban slums, small towns and semi urban areas and in rural settings providing appropriate care (both primary and secondary) to impoverished communities. This is across different specialties and need based in nature. There is a high level of patient satisfaction in them. The doctors earn well and are highly respected in the community they serve. And it will not be any exaggeration to say that creation of such hospitals by committed and innovative health professionals across the country would be the most rational way of developing a viable and economically sustainable backbone of the healthcare services of the nation. As such, in our country, nearly 400 million people have no access to what the WHO levels as “essential health care” today. And the per capita GNP of the countries from which we import surgical technology varies from 30,000 US dollars to 50,000 US dollars, while ours is around 750 US dollars only.

Summing up therefore, a “rural hospital” is a hospital which is need based, working with limited resources, and serving with appropriate care, a population living in conditions prevailing in rural India. These institutions are sustained jointly by voluntary contribution of services of the healthcare providers and finances by the community. It may be in an urban slum, periphery of a small town or in a totally rural setting.

According to a survey, 50% of doctors working in such “rural” hospitals are in private practice and the rest are in government service. This article is based on the experience of such doctors working across the country with success.

After post graduation in rural surgery, one has a choice, either to go into a voluntary organization, or be in government service, or to start his own individual practice. In any of these situations, he becomes an agent of change in healthcare development in his area of professional practice and in this article we propose to provide guidelines to help him in doing so. Let us take up the nongovernment and government sectors one by one.

1. Nongovernmental sector (NGO or private). It is always good to take some practical training in various disciplines of the course before setting up one’s own hospital. Initial setting depends on one’s financial resources. A feasibility study
must be made. Then, an initial master plan is necessary which can be implemented in parts, over a period of time. And having made the basic infrastructure, it has to start servicing the community.

A) Feasibility.

First the needs of the local community must be studied. It is useless for instance to make a hospital next to a big general hospital. It is also not possible (or very difficult) to start one in a remote area, where there is no proper communication channels like proper roads or a railway station nearby. Electricity is very important and so also is proper water supply.

If local municipal water supply is insufficient, one may have to dig a tube well. Pond water or water from an uncovered well is not desirable for hospital use at all.

Shortfall of state electric supply is faced by rural surgeons in many suitable ways in their areas. Some are using solar energy. Others are using biogas. But the most common is the standby diesel generator.

In our country, not more than 10% of rural populations have any form of toilets. And they always have many attendants with them, often travelling long distances. One may have to build a septic tank and make arrangements for garbage disposal for them. Various rural surgeons have made appropriate models suiting their areas of practice, of meeting their power and water needs and of sewerage disposal. Most people have made septic tanks and some form of burning of biological waste. A local engineer friend would be a very good support in planning in such matters.

Even a pit latrine is good for attendants.

Summing up therefore, before starting to build a rural hospital, one has to consider the following things:-

Need of the community for a hospital, Communication facilities, Proper water supply, Government electric supply, and Facility for waste disposal

B) Setting up the hospital

A building is like an almirah providing protection to its contents, in this case the patients, attendants and paramedics who take care of them. A good building is one which makes its users comfortable while working. One must remember that a hospital is a live structure bustling with activity 24 hours a day.

The western educated public including health professionals is deeply committed psychologically, to the "white corridor" attitude of hospital construction. A pragmatic approach suiting the builder’s financial constraints, meeting the needs of our simple rural folk and while maintaining basic hygienic standards requires bold and radical thinking. For any given population, the WHO recommendation is 4 beds per thousand, while in our country it is only 0.6 beds per thousand\(^2\). Norms laid down by western architects and government health directorates often becomes an impediment to private and voluntary hospital builders in solving this problem. Albeit one has to keep the law on the right side. In making a plan therefore, it is good to study the state legislations in this regard.

Also, the rural surgeon must remember, that he is the main architect of the hospital. Whether it is by renovating an old building or making a new one, and whatever
advice the architect and civil engineer gives, he has to make the final decision. During the course of training, it is therefore good to visit some already established rural hospitals and meet the successful rural surgeons in the countryside. In the beginning, money should not be wasted in air-conditioning etc. They can come as "add on" later.

Cooking space and toilets have to be made. They should be of Indian style, which are easier to maintain. In a typical rural setting, a shed for patient’s relatives is sufficient for people coming from long distances. A canteen is preferable within or near the campus.

The initial master plan should include the following:

✦ Staff accommodation
✦ Sterilization area
✦ Pharmacy and medical store
✦ Library cum office room
✦ Administrative area
✦ Operation theatre including changing area
✦ X-ray, darkroom, laboratory and wards
✦ Separate labour room (If space is available). Albeit, for an initial small setup, operation theatre can double up for this purpose. Then proper precautions are a must before performing even minor clean surgery after a delivery.
✦ An outpatient clinic, with at least three consultation chambers, reception and waiting hall
✦ Provision for drinking water in hot climate
✦ A shed or hall for patient’s relatives.

The actual design will have to vary according to the available land etc. and the financial resources. Only a small part of the master plan may be made initially and as the clientele increases, and money flows in, additions may be made slowly over a period of time. Hence it is not proposed to provide a set plan of a building in this article.

However, the operation theatre design needs to be discussed.

This structure will have to be a pucca building. The floor and the walls up to a height of seven feet will have to be washable. This part will have to be of polished cement with stone chips, or stone or marble. Alternatively, the walls could be oil painted. Ceramic tiles are also a good material. Painting should be done every year of the roof and the upper part of the walls. Windows should be sealed with white painted glass. This helps in using daylight inside the theatre. A good functioning exhaust must be fitted in the upper edge of a wall.

Air-conditioning is optional and should be used only if the power supply is sufficient. As such during a major surgery, at least one suction machine will
be working, may be a diathermy, a steam sterilizer (boiler) and the operation theatre lights and an air conditioner will be an added burden on electric supply. Also, air conditioners are notorious for collecting dust particles and associated bacteria and needs to be cleaned regularly. Many rural hospitals use wall fans in the theatre.

The size of the operation theatre should be such that there is enough space for circulation during major surgery of at least five people (surgeon, two assistants, anaesthetist and one OT assistant) and the instrument trolley, suction, diathermy, anaesthesia machine and at least one drug almirah. It should not be too large since then it would collect dust and cleaning and sterilization becomes a problem.

It has been our experience that the optimal space of an operation theatre, for the turnover of a small hospital would be around 300 sq.ft. A diagrammatic sketch is given below. For a bigger setup, two theatres can be made with a common scrubbing area, semi sterile area for autoclave, changing etc.

After construction, the theatre needs to be furnished. Even if one has enough funds, one should beware of buying "state of the art" equipment under pressure of the sellers. Prioritization needs to be done. A simple mechanical operation theatre table with a kidney bridge should be enough to start with (costing about six thousand rupees). A 200 watt lamp can be converted into an OT operating light by an innovative electrician and focusing standing table lamps could add up to this. One must have foot suction and good battery operated torch light as standby to face sudden electricity failure. However no compromise can be made in buying small instruments like artery forceps, mosquito forceps and needle holders etc. Often trolleys and drip stands, hammers, screw drivers and such other equipment, can be made by the local blacksmith. Even hospital beds etc. involving the local community in making the set up not only saves money, but also creates goodwill amongst them. Then, as the clientele increases, more and more sophisticated gadgets can be added according to the need of the hospital. There are many rural surgeons today who, having started with small and simple facilities in this way, have finally ended up purchasing laparoscopes, endoscopes and other sophisticated equipments thus developing their standard of service.

C) Starting the service

i) Team building: Once the building and initial equipment is in place, the hospital is ready for service. No rural surgeon can function without a team of workers. This he has to build up. Many surgeons who are now practicing in rural areas are married to doctors. This is a great support in developing a good practice in a remote setting.

Hoping to get "qualified" nurses in a rural setting or even in a periurban slum is a rarity. The larger government institutions, the city corporate hospitals, and lucrative jobs in the Middle East and Europe lure out almost all of them. One is lucky if one gets even one or two ANMs for one`s rural hospital. The rural surgeon therefore, has to train up his own nursing staff. It is not a difficult job at all. And semi educated boys and girls from the local community do a great job in this position. This has been the experience of most practicing rural surgeons. The numbers of staff will need to be increased as the workload and the number of beds increase. And their
capacity has to be build up by bedside teaching as also meetings and lectures in the local dialect (and also in English, specially for those who will have to handle drugs etc.) with them. Their welfare (leave, remuneration etc.) will also have to be looked after. In due course of time they become like members of a large family living together. Many rural surgeons are today using ayurvedic, unani and homeopathic doctors in their teams providing excellent service to the community. Thus not only the community is being served by the rural surgeon, but also he provides gainful employment to the local unemployed youth thus generating employment in their areas of practice. A detailed discussion on this "paramedic training" is beyond the scope of this article.

ii) Sterilization and maintenance of equipment also require detailed discussion. Suffice here to say that the surgeon has to learn the use of an autoclave and other sterilization equipment and teach it to his chosen paramedics. Initially a single drum autoclave might suffice but it is always preferable to buy a double drum one if finances permit. Sterilizing the theatre, packing of gauze, linen and instruments etc., has to be learnt by apprenticeship from established rural hospitals and then taught to the paramedics. Supervision has to continue. It is good to have a small workshop for maintenance.

iii) Maintenance of medical records, accounts and bookkeeping and hospital equipments are very important functions. The postgraduate student must learn these during his posting in the rural hospital. If a clean slate is maintained from the beginning, one has the peace of mind to concentrate in his academic work. One has to understand that a rural surgeon is a team builder, manager and a research scientist all combined in one. Future development of appropriate technology in healthcare of our nation depends on the outcome of his practice.

iv) Finances: NO HOSPITAL SERVING THE POORER SECTIONS CAN EVER RUN WITH PROFIT. It is always a losing concern. In spite of this fact, all rural surgeons as of today, are living a good life, providing the best of education to their children, having their holidays and saving for their old age. This is all because of innovative financial management. If the hospital is made to function under a trust, there is no dearth of funding from industrial houses, and funding agencies. If it is made into a corporate structure, a large clientele provides for them. It is good however to have a chartered accountant friend to work for the surgeon from the beginning, albeit on payment.

This is in brief, guidelines to set up a rural hospital in the private sector.

2. Government sector
After post graduation, one could join a district or Taluka hospital, a voluntary organization (e.g. missionary) hospital, or a sub divisional hospital or even a CHC.

One would here expect to have the following things:-

✦ A building with a few beds with linen etc.
✦ An OPD, laboratory, operation theatre with some furniture and equipment.
✦ Colleagues of other specialties, and a lucky one, a colleague in the same specialty.
✦ An administrative chief (the surgeon himself may be the one).
♦ The surgical, managerial and innovative skill of the surgeon himself.

Then there is no shortage of electricity and water (hopefully).

The first thing is to fit in with the existing group of people and acquire their confidence. A new person in a senior position is always watched by others. And the surgeon's technical, managerial and leadership skills has to be the tools for him to succeed in developing a homogenous team for good service to the community.

One has to check up the sterilization procedures in practice in the institution as also the lab function, cleanliness and patient care. Today there is corruption in all areas. If the rural surgeon starts a clean practice himself, after initial resistance, others will slowly give in to his methods. And that is probably the only way he could improve in the functions of the hospital.

Conclusion
Our country is vast and the socioeconomic conditions vary enormously in different parts as also the language. The hospital has to suit the needs of the local communities.

This is only a broad guideline for setting up a rural hospital in India. The rural surgeon’s innovative faculties have to be sharp to succeed in providing appropriate care locally. Albeit, this is not a difficult task at all as proved by previous entrepreneurs in the field of health care in the past.

References
**Introduction**

Submandibular gland stones are the commonest of salivary gland stones (80%). Multiple calculi in the Submandibular gland are rare. It is estimated that it affects 12 in 1000 of the adult population\(^1\). Males are affected twice as much as females\(^2\). The uphill drainage and slightly thicker saliva of the Submandibular glands is probably the reason for stone formation. The stone may only partially block the gland. The obstruction and stricture by stone or calculus in the Submandibular duct may result in chronic infection of the duct (sialodochitis) and of the gland (chronic sialadenitis). Complete obstruction leads to atrophy of the gland.

Careful history and examination are important in the diagnosis of sialolithiasis. Pain and swelling of the concerned gland at mealtimes and in response to other salivary stimuli are especially important. The symptoms are dull ache in the gland, swelling of the gland or those due to infection of the gland. Intermittent swelling of the salivary gland associated with meals lasting for 2–3 hours, is indicative of a stone or stricture of the duct\(^3\).

**Case report**

A 53 year old male patient presented to us with history of pain in right Submandibular area since 10 days and pain in right side of floor of mouth while eating since 4–5 days. There was no history of fever or similar complaints earlier. On examination there was tenderness in right Submandibular area with minimal enlargement of right Submandibular gland which felt firm on palpation. The floor of mouth in the region of right Submandibular duct was oedematous, inflamed and tender. There was purulent discharge from the right duct opening on pressure. Bimanual palpation revealed a hard lump. FNAC, from right gland, done at some other place, had shown inflammatory pathology. Routine investigations were normal. X ray showed a large triangular radio opaque shadow in right Submandibular area. Ultrasound confirmed a stone in Submandibular duct.

The patient was operated next day by which time the tip of the stone was projecting outside (Figure 1, pg no. 29). The duct was laid open and a large triangular stone about 3.5 X 2 cm was extracted (Figure 2, pg no. 29). The duct was marsupialized. Post-op recovery was uneventful.

**Discussion**

There are several reasons related to the formation of stone in the duct. Poorly fitting dentures, dehydration, recurrent infection, and trauma are also causes for the obstruction and dilation of the duct. Debris in the lumen of the duct due to exfoliated ductal epithelium or to mucous plugs is associated with dehydration and may serve as a nidus for the calculus. Calcium salts as calcium phosphate and hydroxyapatite are present with saliva. The thicker and more alkaline nature of the Submandibular gland secretions predispose to precipitation of the salts.

Investigations for diagnosis include X ray of the area which is usually sufficient though a CT scan or MRI may be needed when diagnosis is ambiguous. Sialolith (stone, calculus) of the Submandibular duct are usually (80–90%) opaque due to higher calcium salt content. Although those calculi are usually solitary, 25% of the patients may have multiple calculi, which are opaque and visible on plain films\(^4\). Other investigations described are sialography and sialendoscopy\(^5\). Treatment may vary according to the size of the stone. It may need just gentle probing or removal of the stone by
therapeutic sialendoscopy or traditional surgery to lay open the duct. Stone has been removed even by lithotripsy using ultrasound waves.

References

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Huge Myxoid Fibroma of Labia Majora
— A Case Report

Dr. Archana Verma* MD, FICMCH, Dr. S. K. Baasu*, Dr. Neha Trivedi** MD

Abstract
This is a case report of Fibroma of right Labia Majora in a 47 year old woman. The patient requested treatment because of increase in size of the tumour and inconveniency caused by that. The tumour was surgically removed and was diagnosed histologically as Fibroma with myxomatous changes.

Introduction
Benign tumors of the vulva are relatively uncommon and sometimes create diagnostic difficulty because of unusual morphological features. However if not seen early and removed they can be emotionally draining for the patient. Of the benign solid vulvar tumours, Fibromas and related Fibromyomas are the most common varieties. Their cause is unknown and may show nonspecific clinical features. The lesion was surgically removed with possible clinical pre-operative differential diagnosis of a Lipoma, degenerated Myoma, unusually big Bartholin cyst and a remote possibility of cyst/ hydrocele of canal of Nuck. Histopathological findings of the lesion were characteristic of Myxoid Fibroma of labia majora. Following surgery the patient was comfortable, and her demeanor is now excellent.

Case report
The patient was a 42 years old female, Para 3, who noted a gradually increasing swelling in her right labia majora of 5 years duration. On examination it was found to be a large right labial mass of approximately 16 cm x 8 cm occupying whole of labia majora (Fig.1 page no. 29). The mass was semisolid to cystic in nature, freely mobile, irreducible and there was no pulse on coughing. The general surgeon evaluated the case and confirmed that there was no evidence of hernia. The patient was diabetic. She was taken for surgery after controlling her diabetes.

The patient was put in lithotomy position. Under general anaesthesia a vertical incision was made along the medial aspect of the mass down the level of the capsule in the labia majora itself. The skin incision edges were held with Allies tissue forceps. The tumour mass was dissected out with blunt and sharp dissection and excised intact after clamping and tying a ligamentous structure along with the blood vessels (Fig. 2 page no. 29). Small bleeding points on the way were cauterized. Redundant portion of the skin was removed. Skin edges were approximated with absorbable ‘00’ catgut.

Histopathology report
Gross: 18 x 20 x 22 cm huge lobulated mass (Fig. 3 page no. 29). Cut section shows firm whorled tissue. Microscopic: H7E stained section reveals elongated fibrocytes and fibroblasts with slender basophilic nuclei in a Myxoid back ground. Areas of mature adipose tissue and rich fibro vascular network are seen. Impression: Consistent with Myxoid Fibroma (Fig. 4 page no. 29).

Discussion
The incidence of benign tumours of the vulva was reported in one series to be 0.25–2%. Several varieties of benign tumours of vulva have been reported in the literature including Fibroma, lipoma, leomyoma, fibromyomas, and dermatofibromas etc. They usually appear as solitary, slightly raised mobile indurated lesions. Fibromas may be sessile or pedunculated and may grow to a very large
size. Fibromas develop along the insertion of the round ligament into the labia majora. In our case the tumour also had a ligamentous attachment which was finally clamped, cut and ligated. Fibromas may be pedunculated and may rarely reach a considerable size. Their cause is unknown. These lesions usually cause no symptoms until they reach a larger size and/or are located near the introitus or urethra. Diagnosis is usually clinical. Due to Myxoid degeneration, in this case, the feel of the Fibroma was much softer leading to the uncertain clinical diagnosis. Even if there is no apparent symptom, it is always better to remove these tumours for diagnostic purposes in order to exclude a rare leiomyosarcoma or sarcoma.

References
4) Giuseppe Micali, Benign Vulvar Lesions Article Last Updated: Jul 10, 2008e Medicine from WebMD.
Pressure ulcer (Synonyms: bed sore, decubitus ulcer) is an area of localized damage to the skin and underlying tissue caused by pressure, shear, friction or a combination of these.¹

It is a problem often found in patients with poor mobility especially wheelchair users. Other risk factors are increasing age, severe illness, vascular disease, impaired nutrition, obesity and neurologically compromised status, e.g. those individuals with spinal cord injuries, stroke or receiving epidural analgesia.²

The severity of pressure sores is scored using the European Pressure Ulcer Advisory Panel grading system:¹

Grade 1: Non-blanchable erythema of intact skin. Discolouration of the skin, warmth, oedema, induration or hardness may also be used as indicators, particularly on individuals with darker skin — in whom it may appear blue or purple.

Grade 2: Partial thickness skin loss involving epidermis, dermis, or both. The ulcer is superficial and presents clinically as an abrasion or blister. Surrounding skin may be red or purple.

Grade 3: Full thickness skin loss involving damage to or necrosis of subcutaneous tissue that may extend down to, but not through underlying fascia.

Grade 4: Extensive destruction, tissue necrosis, or damage to muscle, bone, or supporting structures with or without full thickness skin loss. Extremely difficult to heal and predisposes to fatal infection.

The problem of pressure ulcers is given little space in established textbooks of pathology, medicine, surgery or intensive care; perhaps reflecting a lack of interest by doctors.¹, ³ This is occasioned by the poor prognosis in many of the patients who are prone to develop pressure sores.

Several devices are in current use in preventing the occurrence of pressure ulcers. These include the alternating pressure mattress and the alternating pressure overlay.⁴-⁶ The cost of the latter is one thousand pounds sterling (25 per cent of the former) and both require electricity to function.⁶ These two factors make their use inappropriate in the developing world where the burden of pressure ulcers is on the increase due to road traffic accidents and complications of diabetes mellitus and systemic hypertension.⁷, ⁸

To resolve the problems of pressure ulcer in a rural practice in western Nigeria, we have adapted the inflated inner tube of the motorcar tire as an overlay for patients who are at risk of developing pressure sores.

The device consists of a size 13-rim inner tube inserted into a 100cm x 100cm x 15cm rectangular mattress cover made of cotton. It is inflated with air until the pressure is 30 Pascal. Two of these are used as overlay for the adult patient immediately at presentation in the clinic. (Fig.1 page no. 29). Relations of patients, who are always with them on admission, are encouraged to apply intermittent pressure by manually indenting...
the accessible parts of the inner tube with their palms or fists. The cost of each tube and the cotton cover is 2 pounds sterling.

The patients in the study group included those with quadriplegia resulting from road traffic accident (2 patients) and fall from height (1 patient); coma from diabetes mellitus (1 patient) and hemiplegic from hypertensive cerebrovascular accident (1 patient).

For periods of 2 to 8 weeks, we have observed that no induration or pressure ulcer developed in the five patients where the device has been employed.

The advantages of the device include availability and affordability, effectiveness in preventing pressure ulcers and adaptability for home use in patients whose recovery could be slow. There is an indication that it might hasten healing of pressure sores.

References
2. Lyder C H Pressure ulcer prevention and management. JAMA 2003; 289: 223–6
Announcing the birth of Ibarapa hernia centre

by

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Dr A C Sagua, rural surgeon practicing at General Hospital, Igboora, 25km from Eruwa and Vice-President, Association of Rural Surgical Practitioners of Nigeria, ARSPON, participated in the last two exercises of the Ogun State Rural Medical Outreach. In both instances and on previous occasions, most of the operations performed were inguinal hernia repairs. Many patients had to wait till the next round.

On account of this scenario in a neighbouring state, we reviewed the frequency of inguinal hernia repair in the 24-year period, January 1984 to December 2007 at Awojobi Clinic Eruwa, ACE, in Eruwa, a border town with Ogun State (Fig 1). At present, a patient pays eighteen thousand naira (N18 000.00, 72 pounds sterling) to have an inguinal hernia repaired. Inguinal herniorrhaphy constitutes 67 percent of major operations carried out at ACE.1-4

The histogram shows a biphasic pattern in the frequency of herniorrhaphy at ACE with two peaks in 1985 and 2001/2002. The frequency is on the decline due to the efforts of other colleagues in the district and probably the relatively high fees charged by us. However, the incidence of obstruction is less than 1 percent.3

Figure 1. Frequency of inguinal herniorrhaphy at Awojobi Clinic Eruwa, 1984 – 2007
In the light of the experiences and impressions of Dr Sagua, we have established The Ibarapa Hernia Centre based at ACE. To this end, we expanded the operating theatre to take two tables and reduced the fee to N10,000.00. Operation days are fixed for Tuesdays and Thursdays during which Dr Sagua uses the mosquito net cloth as mesh for the repair.5

The benefits have become evident immediately:

1. In the first month, 30 inguinal hernias in 25 patients, two epigastric hernias and one incisional hernia were repaired. This projects to 360 inguinal hernia repairs in one year, a threefold increase.

2. On other days, it has reduced the waiting period between the cases. While the surgeon is almost finishing up on one patient, the second assistant is preparing the next patient on the second table.

3. It is envisaged that junior colleagues could spend their annual leave of one month at ACE acquiring basic surgical skills.

We hereby propose that The Ibarapa Hernia Centre be affiliated with the ARSPON in the spirit of the subject of the symposium (Prospects of on-the-job postgraduate training for non-specialist doctors in private and public medical practice) in our upcoming first annual conference at Ikire, Osun State. A course fee will be charged for the training and this fee is shared equally between the Centre and the Association.

We believe this effort will advance some of The Aims and Objectives of ARSPON viz:

1. To encourage and advance the study and practice of Surgery in the rural areas of Nigeria with limited resources (hereafter referred to as rural Nigeria).

4. To organize scientific programmes like conferences, surgical seminars, symposia, workshops etc., with emphasis on surgical problems that beset a surgical practitioner in rural Nigeria.

5. To provide for continuing medical education programmes for members, post-graduates, students and medical practitioners working in rural Nigeria.

It is hoped that in the near future, the Centre will be housed in a separate facility like the AM Eye Centre established by our senior colleague, Dr BGK Ajayi, on the premises of ACE and which is due for commissioning on 24th October 2008. You are all cordially invited to the occasion.

References


Definition
Shock is a syndrome where there is hypoperfusion of tissues creating an imbalance between the supply and demand of oxygen and nutrients resulting in cellular dysfunction. It is a medical emergency. If not treated adequately and promptly, it leads to tissue damage with multiple organ failure and death.

Classification
1. Hypovolaemic
   Hemorrhagic: Bleeding may be external or internal as in haemothorax, haemoperitoneum and fracture of long bones.
   Loss of plasma: As in burns
   Loss of fluid and electrolytes: As in diarrhoea and vomiting, diabetic ketoacidosis, nonketotic hyperosmolar coma.
   Loss of fluid and electrolytes could also be because of internal losses as in ascitis, pancreatitis and intestinal obstruction.

2. Cardiogenic
   Pump failure: As in myocardial infarction, cardiomyopathy, congestive heart failure (CHF), valvular problems and cardiac injury. It is important to distinguish cardiogenic shock from hypovolaemic shock. Inotropic and Antiarrhythmic drugs are needed in cardiogenic shock than fluid infusion.

3. Distributive
   a) Septic shock
   Sepsis may be associated with hypotension and signs of hypoperfusion despite adequate fluid resuscitation. The cellular dysfunction is due to metabolic block at the cellular level.
   Patients are initially vasodilated with increased cardiac output. Sepsis is commonly due to Gram negative organisms but may be due to Gram positive organisms and fungi as well.

b) Anaphylactic shock
   Anaphylaxis is an exaggerated response to an allergen which could be a drug (antibiotic) or a foreign protein.

c) Neurogenic shock
   It is rare and usually occurs in trauma to the spinal cord. There is sudden loss of autonomic and motor reflexes below the level of injury. There is pooling of blood in the legs leading to hypotension.

4. Obstructive shock
   Occurs due to mechanical obstruction to the flow of blood
   Cardiac tamponade
   Constrictive pericarditis
   Tension pneumothorax
   Massive pulmonary embolism

5. Endocrine shock
   Hypo adrenal shock can develop in critically ill patients with unrecognized adrenal insufficiency. These patients are unable to secrete extra cortisol required for the stress of haemorrhage and infection. Insufficiency can occur with history of steroid therapy, tuberculosis, gland atrophy or metastasis.

Pathogenesis and organ response
Cellular Response
Hypovolaemia leads to fall in cardiac output (CO) and blood pressure causing
hypoperfusion to the tissues. The supply of oxygen to the cells is decreased resulting in anaerobic metabolism with production of lactic acid. With metabolic acidosis there is uncoupling of oxidative phosphorylation and decreased ATP production leading to inactivation of Na-K pump. K moves out of the cell and Na moves in. The cell imbibes fluid from the interstitium, becomes oedematous and dysfunctional (sick cell syndrome). In septic or endotoxic shock, initially there is hyperdynamic circulation with increase in cardiac output, vasodilatation and warm periphery. With absorption of endotoxin into the circulation capillary membrane starts to leak. Cellular dysfunction is due to metabolic acidosis.

**Systemic Inflammatory Response Syndrome (SIRS)**
The inflammatory response consists of abnormal secretion of cytokines. The important cytokines are tumour necrosing factor (TNF) and interleukins. Arachidonic acid, liberated from cell membrane, is converted by cyclooxygenase to thromboxane-A2 which is a potent vasoconstrictor. Activation of Platelets (PAF), monocytes and neutrophils occur resulting in release of free radicals, damage to the vascular endothelium and activation of the coagulation process. Micro thrombi form and several coagulation factors are consumed leading at times to disseminated intravascular coagulation (DIC), especially in septic shock. A large amount of nitric oxide (vasodilator) is also produced.

**Cardiovascular Response**
Hypovolaemia causes decrease in preload leading to fall in cardiac output and hypotension. Sympathetic stimulation induces vasoconstriction and increase in heart rate in an attempt to maintain the blood pressure. There is also cardiac depression due to sepsis and inflammatory mediators.

Pulmonary vascular resistance is increased. Patient becomes tachypnoic and may develop pulmonary oedema (septic shock). Pulmonary oedema may lead to respiratory distress syndrome (ARDS) due to pulmonary capillary and alveolar membrane damage with loss of surfactant and hypoxaemia due to ventilation-perfusion mismatch.

**Renal Response**
Oliguria or anuria occurs. There could be acute tubular necrosis due to renal hypo perfusion, sepsis and nephrotoxic drugs.

**Metabolic Response**
Metabolic acidosis occurs due cellular hypoxia. Hyperglycaemia is due to insulin resistance and the release of stress hormones enhancing glycolysis and gluconeogenesis. Negative nitrogen balance occurs due to increased protein breakdown. Triglyceride concentration increases due to low clearance & increased lipogenesis.

**Compensatory Mechanisms**

**Neuroharmononal response**

Hypotension and hypoxia stimulates the arterial baroreceptors with increased sympathetic discharge. Noradrenalin causes cutaneous and splanchnic vasoconstriction in an attempt to maintain blood supply to the heart and brain. Adrenaline in addition stimulates cardiac contraction and increases heart rate to compensate for low cardiac output. Stress hormones are released. ACTH stimulates more cortisol secretion. Aldosteron and vasopressin attempt to minimise water and sodium loss from the kidneys. Angiotensin is secreted by stimulation of the renin-angiostensin axis. Acidosis induces hyperventilation with more carbon dioxide washout leading to respiratory alkalosis to combat metabolic acidosis.

**Clinical Features**

**Hypovolaemic shock**

Severity of symptoms depends on the degree of shock. Shock is moderate when blood volume loss is 20–40% and severe when loss is more than 40%. This is associated with
hypotension (Blood pressure less than 90mm mercury systolic), rapid and thready pulse, cool and clammy skin, rapid and shallow breathing. Low cerebral perfusion (Sensorium) leads to anxiety, restlessness or altered mental status. There is oliguria or anuria, fatigue. Patient is often hypothermic.

**Cardiogenic shock**
Same as hypovolaemic shock. Neck veins are distended and often arrhythmias may be present.

**Obstructive shock**
Additional features are distended neck veins and pulsus paradoxus in temponade.

**Septic shock**
Pyrexia. Initially the extremities are warm & flushed (vasodilatation) and subsequently becomes cool and blotchy.

**Anaphylaxis**
It is associated with circulatory collapse, skin eruptions, laryngeal oedema with breathlessness and bronchospasm (histamine release).

**Initial Management**
If definitive care is not available at your set up establish prompt contact with major referral centre. Rapidly identify patient who would benefit from early transfer based on available local resources, manage any life threatening injuries. Management must be aggressive with following immediate measures.

1) Restore the circulatory volume and prevent further loss. Insert a wide bore intravenous canula and start fluid infusion. At the same time blood for grouping, cross matching and necessary laboratory tests (ABG, Hb, Haematocrit, etc) may be drawn. Once the volume is replenished tissue perfusion is restored unless shock has proceeded to the irreversible stage. Site of bleeding must be recognised and haemostasis achieved.

2) Start oxygen therapy and manage airway appropriately with endotracheal intubation and mechanical ventilation where ever necessary.

3) Asses neurological status in case of trauma (alert, respond to vocal stimuli, painful stimuli, unresponsive).

4) Identify source of bleeding in case of traumatic shock (visual inspection, chest x-ray, peritoneal aspiration, ultrasound, pelvic x-ray).

5) Use appropriate antibiotics to combat the infection in septic shock. The site of infection must be located & pus drained.

6) Prevent complication like organ failure, DIC & ARDS.

5) Maintain temperature.

**Type of fluids to be used**
Crystalloids like lactated Ringers solution or normal saline are generally used. Hypovolaemia due to bowel obstruction, high output fistulae etc. are treated with electrolyte solutions to balance the type of fluid lost. Dextrose solution should not be used as it constitutes free water increasing cerebral oedema and rising blood sugar.

Colloids e.g. polysaccharides (dextran), polygeline (Haemaccel), hetastarch and albumin offer no additional benefits and are expensive. However some clinicians combine colloids with crystalloids.

When blood loss is more than 20% of the volume, replacement should be with blood.

All fluids should be warmed. Since large volumes have to be infused rapidly, hypothermia may develop.

**Obstructive shock**
A chest tube will be needed for haemo or pneumothorax. Thrombolysis or embolectomy
may be required for pulmonary embolism and Pericardiocentesis for cardiac tamponade.

Drugs

✦ Vasoconstrictors do not have much role except in spinal shock and septic shock, nonresponsive to fluid resuscitation.
✦ Low dose dopamine may be used to maintain kidney perfusion and urine output. Its inotropic action also helps. Dobutamine with less chronotropic effect may be preferable.
✦ Inotropic drugs are often needed in septic shock and cardiogenic shock.
✦ Antiarrhythmic drugs are to be used when needed.
✦ Corticosteroids are used in adrenal shock. A relative cortisol insufficiency may exist during stress even in patients with normal adrenal function. It could also minimise inflammatory response.
✦ Adrenaline and corticosteroids are used in anaphylaxis.
✦ Insulin to be used for blood sugar management in diabetic patients.
✦ Stress ulcers may develop and needs to be treated with drugs like H2 receptor blockers.
✦ Acidosis needs to be corrected with sodium bicarbonate only when the pH is less than 7.2. Above that it gets corrected once tissue perfusion is established.

Monitoring

Following parameters are to be monitored:
Central venous pressure (CVP)
Oxymetry
EKG
Intra arterial blood pressure monitoring
Urine output
Pulmonary capillary wedge pressure (swan ganz catheter)
Serial blood gases analysis
Letters to the Editor

Rating of Rural surgical centres…

Dear Dr Baasu,

Thank you very much for printing my article in the Rural Surgery Journal. I think it is OK without the diagrams: I am sorry I could not send them in time.

About the grading of Rural Hospitals (vol 4, no 2, p 8–11), I think it is a sound idea, although a Star grading does appear a bit commercial. Perhaps, the first thing would be to make a (voluntary) register of Rural Hospitals that perform Surgery. There could (later) be benefits to be on such a register. Grades could be: “Basic”, “Standard”, “Intermediate”, “Advanced”, and “Specialist”. The grades could be based on the schemes described, but with more specifics, numbers of major & minor operations done, whether good records are kept, nurse-to-patient ratio etc.

This could all be the subject of a very useful symposium. The existence of a register (not restricted to India) could promote contacts with Western or more sophisticated Hospitals to enable exchange programmes to be initiated. A rural hospital could aim to be "twinned" with an institution in the West, and benefit from visiting experts, donation of equipment, visits by trainee surgeons etc. There is a large amount that rural surgeons in India can teach trainees from the West, who, because of limits imposed on their working time, are much less exposed than before to clinical experience. Furthermore a register could promote contacts between isolated practitioners, and the sharing of expertise.

The gradation of Rural Hospitals (based on actual output and practical results) could also be the basis for establishing training centers for clinical officers (nurse-practitioners), technician aides, and so on.

With best wishes,
Yours sincerely,
Michael Cotton
Professor of Clinical Practice,
Bulawayo, Zimbabwe

Transvesical open prostatectomy

It is very important for our postgraduates to learn and master open prostatectomy. Bigger hospitals across our country (and even quite a few rural hospitals) have switched over to TURP. Yet open prostatectomy remains the backbone of prostatic surgery for rural hospitals serving with limited resources. At least 60% of all prostatectomies are done by general surgeons across the world in developing communities, even today, by the open method.

Albeit, there are many variations in the procedure of transvesical open prostatectomy.
In the seventies, I changed over to a Pfannensteil’s incision from the earlier midline. This incision healed better and had less chances of post op. fistula. This also gave a better exposure and without the necessity of filling the bladder. After lifting up the peritoneum from the bladder wall, the cave of retzius is widened. This also gave better exposure to the prostatic fossa while retracting the bladder incision to control bleeding after the enucleation.

Secondly, sometime in spite of our best efforts, it is difficult to control bleeding satisfactorily. A second pack may be put in such a situation after removal of the first pack. The end of this pack could be taken out through a separate stab incision below the main incision. And it could be removed under sedation in the ward after 48 hours, when the urine has become clear.

Thirdly, I have always used a large suprapubic Malecots catheter for better drainage. This could be removed after the urine clears up. Also in my opinion, a bladder neck resection should always be done preferably with a cutting diathermy.

Several procedures have been done in the past to minimize bleeding like internal iliac artery ligation, several types of sutures, depending on individual innovations and preferences. However the most important preventive is to be able to find the right plane for enucleation, which has been very rightly pointed out by the author. And this has to be shown to the next generation by us through assistantship in our hospitals (as had been done to us by our teachers).

J.K. Banerjee
Imm. Past president

**Laparoscopic surgeries in rural areas: Challenges and adaptations: An experience of over 1300 laparoscopic surgeries**

Dear Sir

Minimally invasive surgeries are gaining popularity even in rural areas. This is because most of the people who live in rural areas are below the poverty line and it is very important for them to get back to productive work as soon as possible. The major problems that the patients face are related to accessibility, affordability and availability. On the other hand, hospitals face problems related to Anesthesia, Availability of equipment that works all the time and Availability of senior’s guidance. The major challenge is to make the laparoscopic surgeries safe and affordable. We describe how these problems were overcome at Burrows Memorial Christian Hospital (BMCH) in rural Northeast India.

The innovative diagnostic camps of BMCH arranged by the local Churches involve bringing medical personnel and modern diagnostic equipment into the interior villages. Patients identified with the need for surgical intervention are then offered a health scheme to come to the hospital where surgery could be performed at extremely discounted rates. In one such camp at Saiha in Mizoram about 80% of the surgically treatable conditions were diagnosed for the first time during the camp. To further increase the availability surgical camps are organised at various hospitals where the local surgeons collect many laparoscopic surgical patients.
Lessons learnt from the experience of over 1300 laparoscopic surgeries:

1. More than half the rural hospitals in Northeast India are still using ether for anesthesia with nurse anesthetists giving the anesthesia. We have carried out well over 1000 laparoscopic surgeries under ether anesthesia using EMO machine and have not had any serious complications related to anesthesia. General anesthesia is about three times as expensive as local or spinal anesthesia and hence Lower abdominal surgeries have been carried out under spinal anesthesia and dissociative anesthesia (using Ketamine) while Diagnostic laparoscopies, laparoscopic tubectomies, etc have been carried out under local anesthesia.

2. Combined large capacity spike protectors and a locally made devise to check electrical connections helped to decrease the technical problems in the operating room.

3. Getting staff and trainees from medical colleges for helping with surgical camps provide a win-win situation for all concerned. A computer is used to record all the laparoscopic surgeries. They are edited and fed to the locally made C3MDS computer software. Quick retrieval of any portion and addition of comments from seniors is possible.

4. The surgical camps helped many of the local surgeons learn laparoscopic surgical procedures.

5. Local adaptation and modification of equipment helped reduce the cost of laparoscopic surgeries. When the carbon dioxide insufflator failed the blood pressure instrument cuff and tubing was used. Special low cost adaptors were made for using flash light with the fiber optic light cable. Laparoscopic knot pusher was made from flattened Stein man pins. Cauterizing electrodes were made from open ended ureteric catheters with stylet and cover of the disposable needles. Figure 1 shows the photographs of these.

J. Gnanaraj MS, MCh (Urology)
Burrows Memorial Christian Hospital.

Figure 1
ARSICON – 2008 (PROGRAMME)

Day 1: 15th Nov 2008

CME/Symposia on Emergency surgery and critical care

- Surgical sepsis
- Radiological evaluation of abdominal trauma
- Critical care in terminally ill patients
- Post-partum hemorrhage management
- CPR
- Non invasive ventilation
- Orthopedic trauma management in rural setting
- Burns management in peripheral centers
- Recent trends in perioperative antibiotics administration

Day 2: 16th Nov 2008

- Antia - Finseth Innovation award presentation
- Peptic ulcer today
- Symposia on training of paramedics (Rural health providers)
- Meet the experts session
- Diabetic foot
- Trends in the management of perianal fistulas and hemorrhoids
- Free papers
- Annual general meeting

Day 3: 17th Nov 2008

- Cancer chemotherapy- prevention of complications
- Hospital waste management
- Live surgical workshop

Last date of abstract submission: 15th October 2008
ARSICON-2008
16th National conference of Association of Rural Surgeons of India 15th, 16th, & 17th November 2008
Organized by Dept of Surgery Mahatma Gandhi Institute of Medical Sciences, Sevagram, Dist. Wardha 442102, Maharashtra
Organizing Secretary Dr. Dilip Gupta Prof and head of Surgery e-mail: arsicon2008@gmail.com 017152-284341-55(15lines) Ext 271, 381 Deadline for submission for abstract: 15th October

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