THE
Journal of Obstetrics & Gynaecology of India

VOLUME XXI, No. 6 DECEMBER 1971

SIR KEDARNATH DAS MEMORIAL ORATION
VAGINAL SURGERY, ITS USEFULNESS AND PLACE IN MODERN GYNAECOLOGICAL PRACTICE

by

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I feel greatly honoured to be invited by the Bengal Obstetric and Gynaecological Society to deliever the 15th lecture of Sir Kedarnath Das Memorial oration. The contributions of Sir Kedarnath Das in the field of Obstetrics are too well known not only to the Obstetricians of India but also to the Obstetricians of the whole world. His monograph on Forceps and Historical collections of the Obstetric instruments are something unique of which every Indian Obstetrician will always be proud. His practical application of the knowledge of obstetrics to the Indian conditions is much to be appreciated and Kedarnath Das's modifications of the forceps has contributed a good deal to make the practice of operative obstetrics safe both for the Indian women and also for the budding practising obstetrician. I extend my thanks and appreciation to all the organisers of this oration for inviting me.

The Fifteenth lecture of Sir Kedarnath Das Memorial Ovation.

I readily agreed to come over to calcutta in spite of disturbed political conditions on the border of your State. Your Secretary informed me then with confidence that the war conditions are not likely to affect the daily working in Calcutta and it would be quite safe to travel in spite of disturbed conditions which have repercussions even on the big nations of the West.

I have selected the subject of "Vaginal surgery, its usefulness and place in modern gynaecological practice". This subject is a very important one to every gynaecologist, especially for those who practise in India. The Indian patients are physically so poor that many of them would stand only the vaginal surgery with less operative shock than any similar major abdominal operation. As the *psychology* of an Indian woman is quite different from that of the woman of other nationality she does not like her abdomen opened as she considers the abdominal procedure more prone to serious danger to her life. From surgi-

cal point of view the available facilities and blood transfusion services, make vaginal surgery more suited than the one carried out by the abdominal route. The chances of wound infections improper healing with possibilities of post operative hernia, peritoneal irritation, infection and gastro-intestinal complications following a vaginal operation are much less than those performed by the abdominal route. The post operative morbidity of vaginal surgery is decidedly lower than that after abdominal procedures. The modern strides made in the treatment of inflammatory conditions by broad spectrum antibiotics has reduced the danger from infection. However, the problem of post operative shock still persists to some extent in spite of good anaesthesia services, blood transfusion and infusion facilities and the use of cortisone derivatives on a large scale, though they have been responsible for reducing morbidity of all operated patients.

The importance and usefulness of vaginal surgery was realised even by the very ancient operators. In the history of gynaecological operations in Greek medicine of the time of Hippocrates, intrauterine douches were employed to wash out bits of retained placentas, use of spong tents for dilating the cervix and pessaries for correcting the displacement of the uterus. First authentic vaginal operation has been credited to Soranus who in second century A. D. did amputation of a gangrenous inverted uterus. With the decline of Greek medicine and the supremacy of the Arabian medicine the science of gynaecology naturally made no progress at all upto the 16th Century. Bengario de Carpi in 1517 did the excision of prolapsed uterus on two occasions following the technique developed by his father and used once before him. Ambrose Paré devised instruments for mechanically dilating the cervix and he is credited with the practice of suturing the torn perineum. In Holland, Joham Weyer incised imperforate hymen of cryptomenorrhea. Hendriks Van Roohuyze's operation for vesico vaginal fistula is described in his book.

Till late in the 19th century, because of the better provision for drainage and less likelihood of peritoneal contamination, operations by the vaginal route were favoured. Posterior colpotomy was very frequently resorted to for drainage of intraperitoneal abscess. Towards the middle of the 19th century Mackintosh of Edinburgh introduced the operation of dilatation of the cervix for dysmenorrhoea. To this was added curettage of the uterus by Recamier in 1850. The operation for perineal tear repair which was done by suturing of the skin and mucous membrane superficially for two centuries was further systematised by Emmet and Hegar by taking the deeper muscular structures of the pelvic floor. By the end of the 19th century Lawson Tait developed the operation of flap splitting for pelvic floor repair which is being used even today. The contribution of James Marion Sims from the middle of the 19th Century for the repair of vesico-vaginal fistula is well known. This was further modified by Tait by the end of the century.

The removal of the uterus per viginam by a definitely planned technique was carried out in 1801 by Osiader and in 1810 Wrisberg advocated vaginal hysterectomy for carcinoma of the cervix and it was further championed by Langenbeck. The diminishing popularity of vaginal hysterectomy was revived by Czerny in the last quarter of the 19th century and in the last decade Schauta's improved the technique of Ex-

tended Vaginal Hysterectomy with lower mortality and complications attracted the attention of many gynaecologists. Wertheims's monograph on all gynaecological problems dealt with per vaginam including ectopics, ventralsuspension for retroversion and interposition operations for prolapse are glaring examples of the real gynaecological surgical skill of the Vienna School. But the prerequisite thorough knowledge of the anatomy of the pelvis and the various tissue planes of the pelvis and dexterity needed in the plastic surgical technique does not encourage every gynaecological surgeon to attempt vaginal surgery and broaden its scope in all the gynaecological surgical lesions. An inherent fear complex is likely to be created in the mind of budding gynaecologists if he or she does not get an opportunity to work under a gynaecological surgeon well versed in vaginal surgery. Simple procedures like vaginal sterilisation are then intentionally avoided by them in their gynaecological surgical practice.

With the introduction of radiation therapy in gynaecological practice at the beginning of this century, both with the object of castration or treatment of malignancy, there was some set back in all the operative gynaecological procedure till the last world war and it is no wonder that major vaginal surgery was carried out in limited centres in the world like Vienna, Germany, Amsterdam, Chicago and in India in Calcutta and Bombay. The 40 years period of this century gave sufficient opportunity to assess the results of radiation therapy. The progress made in the techniques of surgery and anaesthesia proceedures and the introduction of antibiotics and blood transfusions on large scale has revived vaginal surgery in gynaecological practice. Once again vaginal proceedures were adopted by various centres as post operative morbidity and mortality was comparatively less than with abdominal procedures. I, in my practice, have a personal series of total vaginal hysterectomy for varied conditions to the extent of 10,000 operations with only two deaths and in addition about 500 Schauta's operation with only one death as against an equal number of Wertheim's operation with three post operative deaths. It is really surprising how one can extend the scope of vaginal operations with safety to the patient as one gets used to vaginal surgery. In my practice 80% of the hysterectomies are per vaginam. As a result of this influence, the institutions where I am attached the vaginal hysterectomy rate is as high as 60% as compared to the other institutions in Bombay where the incidence is from 30 to 45%. One can master and simplify the technique of removal of the uterus to such an extent that there need not be any descent of the uterus for the vaginal removal of the uterus. Moreover, the ligature technique instead of the clamps helps to increase the scope of vaginal surgery and the self retaining deep and broad retractors help a good deal in the proceedure. The use of a well administered spinal anaesthesia increases the safety and the speed of the operation and minimises the blood loss during the operation and operative and postoperative morbidity and complications. The postoperative nursing care in the ward is greatly reduced and the post operative early ambulation is readily accepted by the patients than after a major abdominal surgery.

In the problem of genital prolapse, the vaginal operative procedures like Mayo Ward vaginal hysterectomy, Cambell's modification of vaginal hysterectomy, vaginal interposition of the uterus, Le'Forte's operation, according to the existing anatomical changes in the sup-

porting pelvic ligaments, have their well defined and useful place and I am not of the opinion that all the cases of uterine descent can be treated by only one procedure and that too by the Fothergills operation. Having seen the new problems created in some of the prolapse cases treated by other expert gynaecologists I was forced to devise abdominal cervicopexy operation in multiparas and for those women with prolapse who are keen on safe future child bearing. This operation has but selective indications. A careful assessment should be made about the difficulty in coitus and reduced frequency and any functional disturbance. It is unfortunate that majority of the patients are shy in coming out with these complaints especially, those in the later part of the child bearing age, and only those, who may be very keen to have future child bearing are likely to state it with great reluctance. As stated before, clear knowledge of the anatomy of the pelvis and various tissue planes is essential to be able to undertake successfully any vaginal surgery with the minimum of operative and post operative complications and with optimum functional results. The technique of plastic surgery is a prerequisite and the surgery should be as bloodless as possible so as to have minimum of blood effusion in the various dissected tissue planes and no chances of postoperative haemorrhage. All these technical details are much more important for the operations involving extensive anatomical dissections e.g. extended vaginal hysterectomy. It is surprising that in spite of extensive intrapelvic dissection, when carefully carried out, there is hardly any shock and the patient is able to stand it with minimum post operative intestinal paralytic complications. Approach should be secured right from the early stage of the operation of the lateral side of the whole of the endopelvic facia so as to expose the obturator fossa completely. In such cases the paracervical obturator and hypogastric lymph nodes can be pulled out at the terminal stage of the operation after removal of the uterus and the vagina. Left sided incision helps to get correct line of cleavage above the levator ani layer on one side and as the circular incision on the vagina is carried on to the right side, the entry can be secured above the levator plate instead of going into the ischio-rectal fossa. The principles of the operation are to expose the uterus and push it outside the isolated pelvic fascia so as to be able to remove the maximum amount of paracervical and paravaginal tissues. All this can be so thoroughly carried out per vaginam and this may be the main reason for low incidence of local recurrance following the vaginal operation and better end results. The incidence of post operative ureteral and bladder fistulae is very low. The terminal part of the ureters retain their blood supply as also the first part at the brim of the pelvis. As regards the removal of the lymph nodes, if one can remove the paracervical, hypogastric and obturator lymph nodes the end results of such a surgery are quite favourable provided extensive pelvic cellular tissue removal is carried out with it. Once the external iliac and comon iliac group of lymph nodes are involved the prognosis is very little altered whether you remove them or not. So that though at one time I was so enthusiast of doing extraperitoneal wide resection of the available lymph nodes at the pelvic brim, later on I changed my policy for good as one does not definitely know the role of the uninvolved lymph node from the point of view of the anti-

body response and the rejection phenomenon.

In the modern days, especially in our country the vaginal approach for the ligature of the tubes is more frequently under taken as there is increasing demand from the public, especially by the women from the State of Maharashtra. I described vaginal sterilisation operation as a vaginal interposition of the tubes in 1943 in which the access is secured upto the tube by going through the anterior fornix between the bladder, the front of the cervix and anchoring the fimbrial ends of the tube to the front of the cervix after properly closing the peritoneum. As this technique can not be freely used in the sterilisation camps, a posterior approach is preferred so as to get a quick and safe access to the peritoneal cavity. In the sterilisation method no part of the tube is excised so as to be able to do the recanalisation operation if there is any need.

An incision is made through posterior fornix after displacing the uterus into retroverted position by passing an uterine sound and putting the fundus in the pouch of Douglas as the first step of the operation. In fact, before selecting any case for operation the surgeon must be able to retrovert the uterus during vaginal examination. The cervix is grasped with a vulcellum forceps, the posterior fornix caught by an artery forceps and a bold cut is made with a pair of scissors in front of it so as to cut both the vaginal vault and the peritoneum with one stroke. This is the most important step of the operation and it is no use cutting the vaginal wall separately and then trying to cut the peritoneum at it has a tendency to be stuck behind the cervix. One is likely to go to a wrong tissue plane and also to produce more oozing from the raw area. Once the fornix is opened and the tube is seen to lie at the bottom of the pouch, of Douglas we can get an easy access of the tube, tracing the tube from the fimbrial end medially with the help of a Babcock's forceps so as to avoid any damage both to the tube as well as to the mesosalpinx which contains the arches of blood vessels. The junction of the lateral one-third and medial two-thirds of the tube is selected for the sterilisation site with the object that subsequently, if there should be a need for recanalization, it can be carried out quite easily by anastomosing the tube without much difficulty at that site. The procedure usually used by the author is very simple. The tube is tied by linen thread by first passing the needle through the mesentery of the tube as near the tube as possible so as not to involve or damage any blood vessels under it. The tube is tied on one side and then to the other side of the forceps so as to include minimum amount of the tube in the ligature. The crushing of the tube, in fact, is not required at all in the non-pregnant state as it very often leads to cutting through the tube and formation of a sinus by crushing the hard portion of the tube.

This is more likely to occur if the site of ligature is nearer the cornual end. No part of the tube is cut away and unabsorbable linen is used as a routine even in a big camp surgery. The access to the tubes can be easily obtained and the tubes properly visualised by useing a pair of long right angle retractor with an illuminating lamp at its extreme end so that the cavity of the pelvis can be well illuminated and the tube is easily located. The peritoneum is closed by a purse-string catgut suture and the vaginal fornix by a continuous catgut suture. Before completing the operation the uterus is once again put back in anteverted position by means of uterine sound to avoid

retroversion of uterus in the post operative period. The usual stay in the hospital is 48 hours after the operation and the urinary symptoms are rarely seen. Apart from slight pain and discomfort in the pelvis for the first 24 hours, there are no other serious complications. The patient can be made to sit up within a few hours of the operation. This operative procedure is usually carried out under low spinal anaesthesia with 1 ml. xylocaine.

The vaginal technique has been more frequently used in the state of Maharashtra as both the operators and patients realise the simplicity, usefulness and reliability of the operation. It can thus be used on a large scale in the camps as it does not involve prolonged hospitalisation and intense nursing care in the post operative period. The early ambulation is a great asset in its favour and cold tubectomies should mainly be treated by this proceedure. In fact whenever there is occasion to do tubal ligation anytime after the 15th post partum or post abortion day the vaginal technique is preferable as very often the uterus is already retroverted and both the tubes and ovaries are in the pouch of Douglas.

In order to minimise further the hospital stay and reduce further the seriousness of the operation, Culdoscopic technique can be used when limited number of persons are to be operated. The Culdoscopy has come to be a routine method of investigation for determining the condition of the ovaries and the tubes before any major surgery is undertaken or before starting treatment for anovulary cycles and associated amenorrhoea, sterility and failure of proper development of ovaries. This investigative procedure can be further extended to clip the tubes or to cauterise them with the idea of blocking the tubes.

The passing of the abortion bill by our Parliament, is going to put before the gynaecologists and obstetricians, a responsibility of perfecting the technique of termination of pregnancy. Apart from the digital evacuation and dilatation and curettage, the time honoured techniques which have been in use for many centuries, the suction curettage with the curette attached to the glass bottle appears to be the best and the safest method as found by its use for evacuation of the uterus upto the 12th week of pregnancy. At later stages, intra-uterine instillation of 10% saline solution, the total amount being derived by using 10 c.c. for every week of pregnancy, and Dr. Krishna Menon's method of 25% glucose solution will have a limited place if the termination of pregnancy is restricted upto the 12th week.

Dr. Shirodkar's contribution to the tightening of the internal os is too well-known and has been responsible for bringing happiness to couples who have been getting repeated abortions because of the anatomical defect of the cervical spincter damage. But unfortunately, the indiscriminate use of such a useful operation for all cases of habitual abortions and even repeated premature deliveries resulting from causes other then defective sphincter control has brought descredit to the operation and disappointment to many expectant mothers.

Deep cauterisation and conisation proceedure have been reintroduced in the treatment of the cervical displasia of grade one and two and have replaced amputation of cervix. This operation was in vogue at the beginning of the present century and Sir Victor Bonney's interest in perfecting and using it on a large scale made it somewhat popular. But the complication of post operative bleeding has been mainly responsible for replacing it by electroco-

agulation and cold cautery conisation procedures.

The vaginal technique of tightening of the urethral sphincter by Kelley's stitch and vaginal operations for treating the vesico-vaginal fistulae have continued to be used in my practice to great satisfaction of the patients operated in spite of newer and more recent abdominal procedures. Indian Gynaecologists and Obstetricians can still claim to get the maximum opportunities to deal with obstetric fistulae which are unknown in the West.

It will thus be evident that vaginal surgery, which is so useful in modern gynaecological practice, should be adopted and mastered if one wants to achieve results parallel to abdominal surgery in gynaecological practice. The younger gynaeologists should be enocuraged and introduced to this field of surgery. I am very happy to find that I got an occasion to deliver a lecture on vaginal surgery in this city in which Late Dr. Subodh Mitra had made an international name by his extended vaginal hysterectomy for cancer of the cervix and I am sure that his assistants and colleagues will keep up to that reputation and traditions.

Before I conclude I would once again like to express my sincere thanks to the office bearers of Bengal Obstetrics and Gynaecological Society for inviting me to deliver the Sir Kedarnath Das Oration Lecture this year.