

## Laparoscopic Assisted Vaginal Cervicopexy

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### Summary:

Laparoscopic aided suspension of cervix to anterior abdominal wall was done in patients having only uterine prolapse or with minimal vaginal wall prolapse.

This new technique involves suturing of synthetic tape at its center to the anterior surface of supravaginal cervix, vaginally, and retrieval of the two ends of the tape with the laparoscopic assistance retroperitoneally, between the two leaves of broad ligament on the anterior abdominal wall and suturing it on the anterior rectus sheath.

We have performed this procedure on twenty patients at Dr. R. N. Cooper Hospital, Juhu, Mumbai, India. The average age was 28.2 years. There was no intraoperative or postoperative complication. Five of them underwent sterilization as an associated procedure. Six patients required repair of cystocele. Two required rectocele repair.

### Laparoscopic Assisted Vaginal Cervicopexy

The incidence of uterovaginal prolapse in developing countries is high. For those, who have finished childbearing and menstrual functions, vaginal hysterectomy and repair is an appropriate choice of treatment. Those, who want to preserve menstrual and reproductive function, require different type of surgical correction.

Surgical correction of uterine prolapse with preservation of uterus can be achieved by either shortening or tightening the lengthened supporting ligaments or by augmenting by Fothergill's operation (Telinde & Mattingly 1970) or its modification (William 1966) to correct prolapse to some extent, but cervical amputation as advocated in that operation, if done, adversely affects subsequent fertility and pregnancy outcome. (Telinde & Mattingly 1970).

Uterus can be brought to its position by

suspending cervix to sacral promontory (Stoesser 1955), sacrum (Shirodkar 1960), sacrospinous ligament (Nichols 1991), anterior rectus sheath (Nesbitt 1989), Cooper's ligament (Joshi 1993) using synthetic or homologous material.

Abdominal Purandare's cervicopexy is a time tested method practiced in India since last few decades, wherein cervix is anchored to rectus sheath by a strip dissected out of it or by synthetic tape. Conventional approach by laparotomy for such suspension can lead to formation of adhesions or damage to reproductive organs due to excessive handling of organs or drying of the tissues. Secondly laparotomy itself would necessitate longer hospital stay and longer convalescence.

Though one can suspend the cervix laparoscopically, this method is time consuming, involves tedious endosuturing and requires dexterity. There are also chances of 'giving up' of tape due to inadequate anchoring of tape to the cervix.

Our method of laparoscopic assisted vaginal cervicopexy involves suturing of tape vaginally, which allows secured anchoring of the tape to the cervix, the procedure which an average gynecologist can perform and with the laparoscopic assistance, we advance the usual instruments, retroperitoneally, between the leaves of broad ligament to retrieve the tape on the rectus sheath for its fixation.

**Operative Technique**

Patient is placed in supine semilithotomy position with forward angulation of stirrups. This facilitates the laparoscopic surgery without changing the position.

General anaesthesia is given. Transverse vaginal incision at the level of cervicovaginal junction is taken after infiltration of 1:200000 saline-adrenaline. The bladder along with vagina is reflected up. Blunt dissection on the lateral side of bladder is made with the finger to reach the base of the broad ligament on either side. Mersilene tape measuring about 30cms. X 0.5cms. (Ethicon, division of Johnson & Johnson Ltd., Aurangabad, made in India ) is fixed to the cervix at its center, using unabsorbable material. The tape is fixed at 2 to 3 points to ensure good anchoring of tape as shown in Fig.1. The two ends of the tape are kept along.

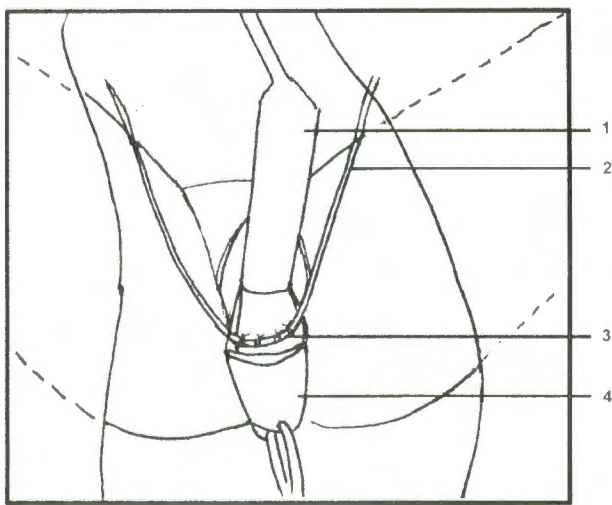


Fig 1

Laparoscopy is now performed by infraumbilical transverse incision adequate for 10 mm. trocar and cannula. Diagnostic scopy is done to visualize the genital organs.

An incision is made midway between pubic symphysis and umbilicus to facilitate 5.5mms. trocar canula. A grasper may be passed through this port. It is used to hold the round ligament while passing the artery

forceps to retrieve the tape retroperitoneally.

Now small incision is made lateral to rectus sheath at the level of anterior superior iliac spine and internal inguinal ring (confirmed by laparoscopic visualization as a point of exit of round ligament). The incision on the skin is deepened to visualize white aponeurosis of external oblique, just lateral to rectus sheath. The aponeurosis is incised to expose the muscle underneath. A long curved artery forceps or a round ligament forceps is passed between two leaves of broad ligament extraperitoneally and then turned medially to reach its base pointing towards the anterior surface of supravaginal cervix.

Now a finger is passed vaginally in the space already created in the paravesical area. The artery forceps which is passed abdominally is now slowly pushed to reach the finger in the vagina, under the laparoscopic supervision. The jaws of artery forceps are opened, the corresponding end of mersilene strip is caught in the jaws and is pulled up. The procedure is repeated on the other side.

The vaginal procedures like correction of cystocoele, correction of stress incontinence, can be done at this stage. Vaginal incision is closed before final lifting up of the tape per abdomen. Both the ends of the mersilene tape are now pulled up adequately and are fixed to the fibrous rectus sheath. The abdominal incisions are now closed. Fig.2 shows end result of operation, showing cervix being pulled up well inside the vagina. The two ends of the tape seen in the picture are sutured on the rectus sheath after adequate pull. The excess tape is then cut.

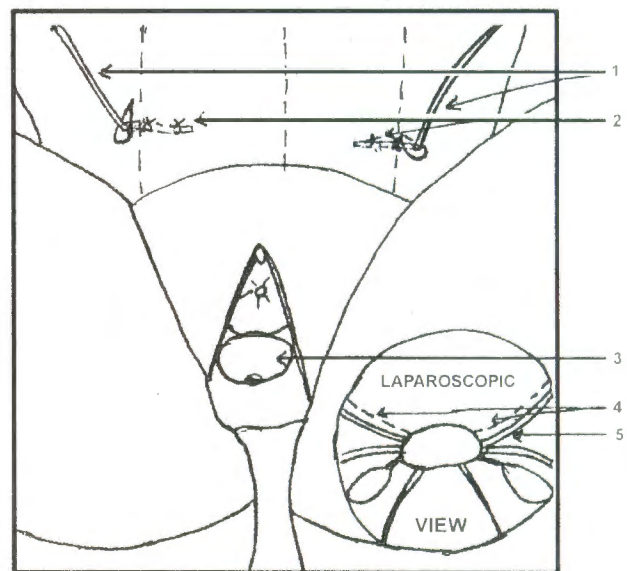


Fig 2

## Results

We have performed this procedure on twenty patients from October 1996 at Dr. R. N. Cooper Hospital, Juhu, Mumbai. Two patients were nulliparous. Out of the rest, four had one child and seven had two. Fourteen of them had second to third degree uterine descent without any vaginal wall relaxation. Six had minimal cystocele and laxity of perineum, which we corrected surgically. The average time taken for the surgery was 45 minutes. There were no intraoperative and immediate or late postoperative complications. Patients were started on oral feed after six hours and were discharged after 48 hours. On follow up after one month, none of the patients had any complaints, like backache, chronic pain in abdomen or frequency of urine.

## Discussion

The incidence of prolapse in young patients among rural population in the developing countries is high because of weakening of uterine support by early childbearing, large family size, unsupervised deliveries and lack of spacing methods.

Subinvolution of uterine supporting structures is commonly found in illnourished and asthenic patients. Early resumption of strenuous physical activity greatly increases intrabdominal pressure before tissues regain their tone, resulting in descent of uterus. Congenital weakness of the supporting structures is responsible for nulliparous prolapse or prolapse following an early vaginal delivery. In such cases, anatomic and functional abnormalities like short vagina, increased paravaginal tissue laxity may be noted even in nulliparous or those who had easy vaginal delivery. Occult spina bifida and associated neurological conditions can also result in congenital uterine prolapse.

Young patients with prolapse require further childbearing, hence uterine suspension methods, without amputation of cervix have special importance. The laparoscopic cervicopexy stands over its counterpart by abdominal route as it avoids laparotomy and its obvious disadvantages.

However laparoscopic cervicopexy is time consuming, requires experience in endosuturing and also that, there are chances of "giving up of tape" due to inadequate cervical bite. Our method has an advantage of anchoring of the tape vaginally to which average gynecologist is familiar and anchoring is perfect.

This method has additional advantage of correction of cystocele, stress incontinence and laxity of perineum at the same time.

The operating time is considerably reduced due to familiarity of vaginal surgery to most gynecologists and minimal laparoscopic assistance required. It does not require expensive laparoscopic instruments.

Further study is warranted to evaluate the application of this technique to management of vault prolapse.

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