

# CERVICOPEXY—A FEW MODIFICATIONS IN SURGICAL TECHNIQUE, ITS SUCCESS AND OBSTETRIC PROSPECT

By

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## SUMMARY

Cervicopexy is simpler than Shirodkar's sling operation. In the process of modification of the original operation done by Dr. B. N. Purandare, here internal inguinal ring has been identified after opening anterior layer of broad ligament as far laterally as possible. The fascial strips are brought down with a curved artery forceps approaching from the opened broad ligament, then through internal inguinal ring and after cutting fascia transversalis. This is felt to be safer procedure. Plication of round ligaments is an important step, omission of which causes extreme retroflexion of body of uterus and subsequent abortion. High advancement of bladder peritoneum by fixing to the fundus of uterus has been avoided for future surgical problem. Although abortion rate is higher, incidence of term vaginal delivery is favourable.

## Introduction

Genital prolapse can be broadly divided into two groups i.e. vaginal wall prolapse (acquired) and uterine prolapse (congenital type). In the first group prolapse is confined to vaginal wall and related viscera. Cervix prolapses because of supra-vaginal elongation. In the second group, the uterus descends in the axis of vagina taking the vaginal wall with it, which in nulliparous woman occurs due to weakness of cardinal ligaments and supports of upper walls of vagina (Jeffcoate, 1967). Here the descent of cervix is not associated with cystocele and rectocele. This type

of prolapse, also called cervical prolapse, at times may be acquired after child birth, particularly following difficult instrumental delivery. Congenital prolapse since birth or congenital procidentia is rare.

The aim of surgical treatment for nulliparous prolapse should be in relation to morbid anatomy present and in relation to future obstetric prospect. Surgery can be done either vaginally or through abdominal route. The time old operation is amputation of cervix. Because this operation does not correct anatomical defect, recurrence is frequent. Further this may cause untoward effect upon future child bearing like infertility or dystocia of labour due to stenosed cervix. On the other hand, it may also cause incompetent cervix

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and midtrimester abortion where high amputation has been done. The second vaginal operation is simple division and fixation of cardinal ligaments in front of cervix after opening vaginal flaps. The pouch of Douglas is also opened and any redundancy corrected (Jeffcoate, 1967). Amputation of cervix can be combined wherever necessary, but success is doubtful.

Abdominal operations for nulliparous prolapse consist of Shirodkar's sling operation (Shirodkar, 1959) and cervicopexy as designed by Purandare (1966). In Shirodkar's Sling operation, the uterosacral ligaments are fixed to the sacral promontory with 1/8" wide nylon tape placed subperitoneally. To avoid kinking of pelvic colon, the operation was further modified by using Psoas loop on the left side avoiding ureter.

Purandare (1966) designed a simpler abdominal operation. With second degree and early third degree cervical prolapse (Shaw's Classification, 1983), ten such cases have been operated and followed-up. Certain modifications of the original operation have been adopted.

All these patients are young (average age 23 years). Symptoms (with average

duration for 3 years) appeared long after puberty. Except one all were married. Six of them suffered from infertility before operation (Table I).

The cervix was outside introitus for variable length. The body of uterus dropped downwards with elongation of vaginal portion of cervix. No cystocele or rectocele was present. First patient (Table I) needs special mention. She had two mid trimester abortions due to incompetent cervix after first forceps delivery. Here Palmer Lash operation, perineorrhaphy and cervicopexy were combined. All parous women gave history of forceps delivery. Typical cervical prolapse occurred afterwards. Case 6 (Table I) was unmarried. In addition to uterine descent, peculiarly she had lax vaginal walls without cystocele and rectocele.

#### Modified Operative Technique

Skin incision was transverse, 4" to 5" long and just above upper border of symphysis pubis. Rectus sheath is incised transversely and as far laterally as to expose lateral borders of rectus muscles. Peritoneum is incised transversely. Grasping out the fundus of

TABLE I  
Analysis of Cases

Case	Age (Yrs.)	Duration of symptoms	Parity	Married (Yrs.)	Associated genital tract abnormality
1	28	3 years	P 1 + 2	6	Incompetent
2	22	4 years	P 0 + 0	4	Nil
3	23	3 years	P 0 + 0	3½	Nil
4	25	3½ years	P 0 + 0	4	Nil
5	20	2½ years	P 0 + 0	2½	Nil
6	18	2 years	—	Unmarried	Lax vaginal walls
7	24	3 years	P 1 + 0	5	Nil
8	26	2 years	P 1 + 0	4½	Lax Perineum
9	23	2½ years	P 0 + 0	3	Nil
10	22	3 years	P 0 + 0	6	Nil

uterus outside the abdominal wound, peritoneum of uterovesical pouch is opened, bladder is pushed down and the peritoneal incision is extended laterally into the broad ligament as far laterally as possible along the round ligaments. Now internal inguinal ring is felt and identified on each side. The uterus, at present, is temporarily returned to abdominal cavity. Fascial strip is made from lower edge of anterior rectus sheath keeping  $\frac{1}{2}$ " at the apex in the middle and making wider at the base laterally. The strip is divided at the apex and made into two keeping attached to their bases.

The next important step is to bring the fascial strips down in between the layers of broad ligament and thus in front of cervix. Purandare (1966) and Chowdhury (1983) approached from abdominal parieties with the help of Bonney's round ligament forceps or long curved forceps. After catching the apex of fascial strip with the forceps they pierced fascia transversalis at internal inguinal ring and brought the fascial strip in between layers of broad ligament on each side. This step has been modified as follows:

The uterus is again pulled out as before. The internal inguinal ring is palpated through the lateral end of exposed broad ligament. Guided by one index finger a 7" long curved artery forceps is passed through internal inguinal ring. The assistant exposes from the surface of the tip of the forceps pointing at the parieties on the lateral border of rectus muscle. There the fascia transversalis is cut open over the tip of artery forceps which now catches the apex of fascial strip to bring down in between layers of broad ligament. This minimises risk of injuring inferior epigastric and broad ligament vessels. The same

procedure is repeated on the other side. The two fascial strips are now crossed one upon the other and sutured one with the other, with the cervix in front and also with peritoneum of anterior layer of broad ligament. Catgut stitches have been used mainly except four unabsorbable sutures at four points in front of cervix. Purandare (1966) has advised to suture bladder peritoneum high up at the fundus of uterus. We have avoided this step and sutured peritoneum as usual. Purandare has also advised plication of both round ligaments. In our first 4 operations this step was omitted but later on included. Abdomen is closed in layers using interrupted catgut stitches for anterior rectus sheath.

#### *Results and Discussion*

The incidence of classical cervical prolapse is approximately 1 in 5000 gynaecological patients attending out patient's department of a Hospital. The operation was successful in 9 patients. In 1 patient, after closure of peritoneum and rectus sheath, it was found that the left fascial strip did not anchor and it came out. No further attempt was made to refix it. Here also the result was good (Table I, Case 5). During follow up in successful repairs, the cervix was found lifted high up at symphysis pubis. Bimanual examination detected sling action, i.e. the cervix went up when the patient coughed. The cervix became shorter also and adopted a normal length. Therefore no amputation was necessary upto an elongation of 5" (Table II).

Except post-operative fever and stitch abscesses in three cases, no major post-operative complication occurred. The fascia transversalis gaps on both sides were closed routinely. There was no

TABLE II  
Degree of Prolapse and Uterocervical Length

No.	Cervix at introitus	Cervix outside introitus	Precedentia	Uterocervical length	
				4"	4" to 5"
10	Nil	10	Nil	8	2

evidence of spigelian hernia (hernia on lateral side of rectus muscle) (Table III).

TABLE III  
Post Operative Complications

No. of cases	—	10
Mortality	—	Nil
Pyreia and stitch abscess	—	4 cases
Wound gaping	—	Nil
Spigelian hernia	—	Nil

Patients could be followed-up for a period from 6 months to 4 years. The only unmarried girl developed 1° descent of uterus two months after the operation.

Six out of 9 patients became pregnant during follow-up study. Two of them were parous and other 4 were suffering from infertility (Table IV). Two patients had one pregnancy in each that ended in first trimester abortion. Other 2 patients had 1 pregnancy in each that continued upto term and had normal vaginal deliveries. In other 2, pregnancy occurred twice in each during follow up, where the first pregnancy in each ended in abortion (Table IV). Case 1 (Table I) had cervicopexy combined

with palmer Lash and perineorrhaphy. She conceived within one year. At sixteenth week of pregnancy Shirodkar's cervical encercilage operation was further done. Unfortunately she had post-operative sepsis and abortion. However, during her next pregnancy she stayed away from routine check up. But, it was term normal vaginal delivery. The second patient in this group with a history of first trimester abortion after the operation, was hospitalised during first half of pregnancy and later on had a caesarean delivery at term (Table IV).

Although abortion rate was 20 per cent, Purandare (1966) gave an encouraging result for future pregnancy after the operation. He used routine plication of round ligaments. In the first few cases this step was omitted. During follow up it was noticed that although the cervix was fixed high up, the body of uterus dropped backwards and was absolutely retroflexed. This might be contributory to abortion. Therefore, plication of round ligaments were included subsequently. In the present series, fixation of bladder peritoneum high up at the fundus was avoided. Although this will

TABLE IV  
Follow up Regarding Subsequent Pregnancy

Married	One pregnancy	One pregnancy went to term	One abortion then one term pregnancy	Could not be followed up
9 cases	2 cases	2 cases	2 cases	3 cases

help to keep the body of uterus in its normal portion, this might help to injure the bladder in subsequent uterine operation (Ambiye and Alwani, 1984).

References

1. Ambiye, U. R. and Alwani, C. M.: J. Obstet. Gynec. India 34: 834, 1984.
2. Choudhury, S. K.: J. Obstet. Gynec.

India 33: 817, 1983.

3. Jeffcoate, T. N. A.: Principles of Gynecology. ed 3 Butter-Worth & Co. (Publishers) Ltd., 1967. Page 325 and 328.
4. Purandare, V. N.: J. Obstet. Gynec. India. 16: 53, 1966.
5. Shirodkar, V. N.: Contributions to Obstetrics & Gynecology, E. & S. Livingstone Ltd., London, 1960. Pages 46-63.

The prevalence of cervical intraepithelial neoplasia (CIN) and invasive carcinoma (ICC) were estimated retrospectively in a study of 100 women presenting with gynecological complaints. The present study was conducted in 1984 in the Department of Obstetrics and Gynecology, Government Medical College, Bangalore. The women were divided into two groups: Group I (50) who had CIN and Group II (50) who had ICC. The women in Group I were followed up for a period of 10 years. The women in Group II were followed up for a period of 5 years. The results of the study are as follows:

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