



STUDY OF PURANDARE'S CERVICOPEXY IN GENITAL PROLAPSE

Obstetrics & Gynecology

**Dr. Udaykumar
Dattatray Patil.**

M.B.B.S., D.G.O., D.N.B., Obstetrics and Gynecology.

**Dr. Shweta
D.Mittal***

M.B.B.S., M.D. Obstetrics & Gynecology. *Corresponding Author

ABSTRACT

Uterine prolapse and its allied conditions and their treatment constitute a major subject in gynecology. It is a difficult challenge to the skill of a gynecologic surgeon who attempts to correct it. In fact, no subject has evoked more discussion, debates and disagreements in gynecology as that of conservative management of prolapse in patients who are interested in retaining fertility and child bearing. This study was conducted in the Department of obstetrics & gynecology Dr.V.M.Medical College, Solapur. This study comprised of 27 cases of genital prolapse that were interested in future child bearing or in preserving their menstrual function. In this study 88% patients were between 21 to 30 yrs of age, 70.36 % patients were multiparous. 62.96 % patients had home delivery. 45 % patients developed prolapse within 3 years of first vaginal delivery. 59.25 % patients had third degree uterine descent. Purandare's cervicopexy was done by using Mersilene tape. In this study the procedure is modified by securing the two ends of the tape with the help of thread underneath the anterior rectus sheath and in the midline instead of knotting it which gave excellent results.

KEYWORDS

Genital prolapse, Purandare's cervicopexy, dynamic sling

INTRODUCTION

The history of "Genital Prolapse" Procidentia (From latin word procedere, To fall) and proposals for treating it, conservatively, can be traced past the days of Hippocratic medicine to a record in the Kahun Papyrus of Egypt. This Papyrus discovered by Finders Petrie in 1989 and translated by F.L. Griffith in 1893 gives three references to falling of the womb approximately 2000 years before the birth of Christ. In those days.

'Succession' therapy was used in treating irreducible uterine prolapse. This has also been mentioned in Hindu medicine. One has to be rational in selecting the surgical management of the displaced womb and the most important aspect of this problem is management of descensus uteri in a young woman desirous of conserving her function of child bearing and menstruation.

It is apparent that early marriages in India, delivery of babies in rapid succession at home without any medical supervision, predisposes prolapse in a young woman. It is not an infrequent occurrence to diagnose prolapse in young women of 20 – 25 years of age after having borne one or two children. An ideal conservative treatment has still remained a dilemma for gynecologists.

Occurrence of prolapse in young women is attributed to premature bearing down efforts before full dilation of cervix and stretching of the pelvic floor muscles and with undue prolongation of the second stage of labour. Women are enforced to resume heavy work soon after delivery without and rest or pelvic floor exercise.

MATERIAL AND METHODS

This study group comprises of 27 cases of genital prolapse. All the patients were either interested in future child bearing and / or in preserving their menstrual function

Table 1 : Age wise distribution of cases.

Age in years	No. of cases	Percentage [%]
< 20	1	3.70
21 – 25	14	51.85
26 – 30	10	37.03
31 – 35	2	7.40

In this study 88% patients were between 21 to 30 years of age. The youngest patient was 20 years old. It is a known fact that genital prolapse is problem of the menopausal patient. However, in India and in our series many young women are found to have genital prolapse. This occurrence of genital prolapse in young patients who are interested either in child bearing or menstrual function has made us think about conservative line of treatment which was done in form of Purandare's Cervicopexy.

Similar procedure was performed in one case of vault prolapse following abdominal hysterectomy for fibroid uterus to conserve coital function. In India women marry at an early age, have repeated pregnancies and this causes prolapse at an early age.

Table 2: Parity wise distribution of the cases.

Parity	No. of cases	Percentage [%]
Nulliparous	1	3.70
One	7	25.92
Two	11	40.74
Three	3	11.11
Four / more	5	18.51

In the present study maximum patients were multipara i.e. 70.36 % Thus multiparity does play a significant role in causation of genital prolapse. Multiple pregnancies in rapid succession, fundal pressure during labour or congenital weakness of the pelvic floor also may contribute to its development.

There was a single nulliparous patient. Most of the nulliparous patients had cervical elongation and they were excluded from this study to be posted for Fothergill's operation.

Table 3: Distribution of the cases according to the place of delivery.

Place of Delivery	No. of cases	Percentage [%]
Home	17	62.96
Hospital	10	37.03

Out of 27 patients, 62.96 % patients had home delivery. This signifies the lack of medical supervision and occurrence of development of prolapse.

Usually home deliveries are conducted by untrained personnel in an inappropriate manner.

Table 4: Distribution of the cases according to the age at which prolapse developed.

Age in Years	No. of cases	Percentage [%]
< 20	7	25.92
21 – 25	14	51.85
26 – 30	5	18.51
31 – 35	1	3.70

Maximum cases seeking treatment for prolapse were among the age group of 21 – 30 years. Prolapse developed quite early as it can be seen in the above table. 77 % of patients developed prolapse at the less than 25 years. This emphasizes congenital weakness of supports of uterus as one of the prime factor in genesis of prolapse in these cases.

Table 5: Duration between the first delivery and occurrence of prolapse.

Interval in Years	No. of cases	Percentage [%]
Within 1 year	4	14.81
1 year	2	7.40
2 year	3	11.11
3 year	3	11.11
< 4 year	15	55.55

In this study 45 % of patients developed prolapse within 3 years of first vaginal delivery. This shows outcome of traumatic labour resulting from improper management, lack of proper puerperal rehabilitation also contributes to it.

Table 6: Distribution of cases according to degree of uterine descent.

Degree of Descent	No. of Cases	Percentage [%]
First	00	00
Second	10	37.03
Third	16	59.25
Vault prolapse	1	3.70

There was no case of first degree uterine descent included in our study, as being asymptomatic condition and can be managed by non surgical conservative treatment.

Majority of the patients i.e. 59.25 % had third degree uterine descent. All the patients had chief complaint of something coming out of vagina. One case of vault prolapse following abdominal hysterectomy was included in the study who was subjected to vaginopexy. Mersilene tape was attached to the vault, taken between two layers of broad ligament and attached to anterior rectus sheath.

Table 7: Distribution of cases according to associated vaginal wall prolapse.

Vaginal Wall prolapse	No. of Cases	Percentage
Cystocele	12	44.44
Rectocele	9	33.33
Enterocoele	7	25.92
Cystorectoenterocoele	16	22.22

Patients having minimal degree of cystocele and / or enterocoele are managed with Purandare's cervicopexy alone. Those with bladder and bowel symptoms along with major degree vaginal wall prolapse required colpoperineorrhaphy and Purandare's cervicopexy by perineoabdominal approach.

Table 8: Concurrent surgical procedures

Procedure	No. of cases	Percentage
Anterior colporrhaphy	10	37.03 %
Posterior colpoperineorrhaphy	9	33.33 %
Tubal ligation	3	11.11 %
Ovarian cystectomy	1	3.70 %
Amputation of cervix	1	3.70 %
Moscowitz repair	2	7.40 %
McCall's culdoplasty	2	7.40 %

Anterior colporrhaphy and posterior colpoperineorrhaphy was done in 9 patients as a part of treatment of associated vaginal wall prolapse.

Tubal ligation was done in 3 patients along with Purandare's cervicopexy. Ten patients had previously undergone abdominal sterilization. These patients were young and interested in maintaining menstrual function. One Patient who had an ovarian cyst, cystectomy was performed.

One patients had elongation of cervix along with uterine descent. Thus amputation of cervix followed by Purandare's cervicopexy was performed.

On two patients Moscovitz's repair and on two patients McCall's culdoplasty was done for enterocoele repair.

Table 9: Incidence of post-operative complications.

Complications	No. of cases	Percentage
Pain at site of attachment of tape	1	3.70 %
Discharge through (wound infection)	2	7.40 %
Discharging sinus with extrusion of tape	1	3.70 %

One patient had pain at the lateral angle of rectus sheath. Analgesics were given and the pain subsided.

There was wound infection in two patient for whom local dressing was done and higher antibiotics given.

One patient post-operatively had a discharging sinus. Through which half tape on left side got expelled out. Subsequently patient was followed up and perspeculum examination was done. but cervix was high up. There was no descent, because on one side the tape was holding the uterus up.

Intra-operatively, there was no complication, Procedure was easily performed. Inferior epigastric vessel was not traumatized in any of the cases.

POST-OPERATIVE FOLLOW-UP

Before the patients were discharged, perspeculum examination was done and level of cervix was visualized. It was found high up. Being a dynamic sling, cervix was seen getting lifted still further up when patient was asked to cough.

Next follow – up was done after 6 weeks and 3 months. All the cases could be followed up after 6 week.

At every visit patient was asked and enquired regarding recurrence of symptoms. Patients were completely relieved of their symptoms and on examination cervix was high up.

Out of 27 patients, 21 patients were followed up upto 3 months and had no recurrence. Four patients were operated recently and after six weeks had no recurrence. Two patients were lost to follow-up.

There was no recurrence of prolapse in patients who had previously undergone anterior colporrhaphy and posterior colpoperineorrhaphy following Purandare's cervicopexy.

DISCUSSION

For years together prolapse and hysterectomy were considered hand in hand. But young women with prolapse who are desirous of child bearing and/or menstrual function should be thought of .An array of conservative techniques had been devised to treat the prolapse in these patients. In country like India, many deliveries are conducted by untrained dais taking place at home in rural areas. Uterine prolapse is a common condition seen in child bearing age group. At the same time because of high perinatal and neonatal mortality one would like to preserve childbearing function along with correction prolapse.

An ideal conservative method should preserve the menstruation, restore the fertility, should not interfere with labour and of course should be technically easily.

Initially Fothergill-Manchester repair was considered an ideal line of management for young prolapse. But it reduces fertility, causes abortion, premature delivery or cervical dystocia during labour. It also leads to dyspareunia and recurrence of prolapse after delivery.

It was Dr Shirodkar who logically thought that in Fothergill operation the paracervical tissues are brought forward forcibly and is a poor attempt to shorten the ligaments. It is not effective in bringing cervix in its natural position. In order to overcome this problem, Dr Shirodkar modified this procedure and called it as Shirodkar's extended Manchester operation. In this procedure the uterosacral ligaments are dissected along with its peritoneal covering and advanced in front of cervix or crossed in midline. Even this operation has failure rate of 5% if ligaments are weak and vaginal repair does not help.

With this background, the sling operations or abdominal cervicopexy operations were developed, mostly by Indian Gynecologists, to suit their patients need. Initially patients own fascia were used viz. fascia lata or external oblique aponeurosis at the region of rectus sheath. For fascia lata to be used good abdominal tone had to be present which is usually not present in many patients. Over the time the tensile strength of fascia lata would be lost leading to prolapse.

Dr V.N. Purandare proposed that uterosacral sling operation produces tearing of veins leading to compression and kinking of colon. Purandare's cervicopexy is much simpler technically especially in

obese patients. The two methods i.e. Shirodkar's bilateral, Soonawala's unilateral sling and Purandare's cervicopexy illustrate two different principles of sling. The Shirodkar's and Soonawala's sling can be called static sling the one which remains rigid during changes in the intra-abdominal pressure. Whereas in cervicopexy operation one uses a sling which actively pulls the uterus upwards anteriorly during straining and hence the sling can be called dynamic sling. This occurs on account of its attachment to anterior abdominal wall parities which actively tightens the sling during contraction.

The shift of uterus in anterior compartment of the pelvis during straining gives it additional support due to the underlying pelvic bone and its rami.

In the year 1956 Dr. B.N. Purandare performed cervicopexy, which is technically much simpler using pfenneisteil incision, two strips of anterior rectus sheath – one on each side of midline were prepared and fixed to the exposed anterior surface of the cervix with non-absorbable sutures and the strips were carried there extraperitoneally in the same manner as in modified Gilliams operation. This procedure had its own shortcomings as the strips prepared from anterior rectus sheath had to be 1 cm in width. In case the strips were prepared very thin, it would not be strong enough. The fixation of these to the anterior wall of cervix must be secure, otherwise their separation would mean a failure. Due to anterior attachment of rectus sheath should the patient require caesarean section in future, would cause difficulty in separation of bladder because of advancement of the bladder peritoneum and in taking the uterine incision.

In order to overcome these shortcomings Dr. V.N. Purandare [1956] modified the operation by using Mersilene tape, fixing it posterior to cervix.

The tape then passes anterolaterally above the uterosacral ligaments extraperitoneally and fixed to anterior abdominal parities. The fixation of the strips is done on to the anterior sheath by passing through it and knotting the tape end on itself. With these modifications the uncertainty of rectus sheath is eliminated. The posterior cervical attachment of the tape reduces the tendency to excess retroflexion of the uterus. However should a Caesarean section be required, the anterior wall of lower uterine segment is free from any sling coming in the way.

In our study we have modified the procedure by securing the two ends of Mersilene tape with help of thread underneath the anterior rectus sheath and the midline instead of knotting it.

Table 1 : Agewise Distribution [<30 years]

Study Group	Percentage
S.K Chaudhuri	73.9
Pankaj Desai	100
M.C.Mitra	100
Present study	92.58

In our study 92.58 % patients were upto the age of 30 years, in the study by Dr. S. K. Chaudhuri [1983], 73.9 % patients developed genital prolapse within 30 years, 16.2 % patients were nulliparous and 73.8 % patients were either primipara or premature. This suggests that causation of genital prolapse could be due to congenital weakness of supports of genital organs superimposed with aggravating factors associated with labour. In Dr. Pankaj Desai's study and in Dr. M. C. Mitra's study 100 percent patients were less than 30 years of age.

Table 2 : Parity

Study Group	0	1	2	>3
S.K.Chaudhuri	16.2	34.4	39.4	10
Pankaj Desai	5.6	25.01	44.6	28.57
Present Study	3.7	25.92	40.74	29.62

In our study 3.70 % patients were nulliparous 25.92 % were primipara and 40.74 were para two, 29.62 % patients were $\geq$ para three. In Dr. Pankaj Desai's study 44.6 % patients were para two and 28.57 % patients were $\geq$ para three. Thus role of childbirth in etiology of prolapse can be considered. Nulliparous prolapse and prolapse occurring after one delivery can be contributed to congenital weakness of musculoligamentous supports of uterus and pelvic floor.

Table 3 : Place of Delivery

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Study Group	Home	Hospital
Pankaj Desai	60.71	39.25
Dr. Lukman Group 1	92	08
Group 2	90.5	9.5
Present Study	62.96	37.30

In our study 62.96 % patients had home deliveries and 37.03 % had home deliveries. In a study by Dr. Desai and Dr. Pandya, the incidence of home delivery was 60.71 % and hospital delivery was 39.29 % out of 56 patients studied. In the study, conducted by Dr. Lukman Y. of "Utero- vaginal prolapse "a rural disability of the young [1995] from Gondar group out of 156 patients, 114 [92.2 %] were from rural areas. From Gandhi group out of 195 patients, 143 [90.5 %] were rural housewives.

Some surgeons have used abdominoperineal approach so as to avoid excess vaginal repair and shortening of vagina which may interfere with normal sexual function. We have not applied this principle as we had to give traction over cervix and uterus which was already pulled up by Purandare's cervicopexy. Hence we preferred vaginal wall repair followed by cervicopexy for third degree uterine descent with big cystocele. Enterocoele if present was repaired by either Moscovitz or McCall culdoplasty.

In our study 9 patients underwent anterior and posterior colpoperineorrhaphy. In the study conducted by Dr. Pankaj Desai and Preeti Pandya, out of 56 patients, 16 patients underwent anterior and posterior repairs. Moscovitz operation was done in 11 patients. In our study 2 patients underwent Moscovitz and 2 McCall's culdoplasty.

Purandare's cervicopexy is a simple procedure, Being a dynamic sling [uterus is pulled upwards and anteriorly with increased intraabdominal pressure], thus chances of occurrence of prolapse is less. The sling does not come in the way of labour.

Through our study group comprises a small number of patients with the short term follow-up, the obstetric outcome is still awaited. But we can definitely say that Purandare's cervicopexy has a promising and has really stood the test of time.

Summary

Prolapse is one of the most commonly encountered condition in gynaecological practice. In India where still teenage marriages are common,

confinements occurring subsequently, lack of proper intranatal and postnatal care, and of course the tendency not to bother about the family size leads development of prolapse at young age.

To treat young patients with the prolapse is still a challenge to the gynecologist. With the knowledge of anatomy of the supports of uterus and etiopathogenesis of prolapse it is rational to think over the preventive aspects of the prolapse.

Prevention Is Better Than Cure

Do

Timely episiotomy is must wherever indicated.
Repair all the perineal tears.
Encourage antenatal and postnatal pelvic floor exercises.
Treat puerperal bowel and bladder problems promptly.
Practice appropriate instrumental delivery.

Do Not

Bear down before full dilatation of the cervix.
Allow the undue prolongation of the second stage.
Give fundal pressure to deliver the baby.

Variety of conservative surgeries have been described which includes Manchester operation, Shirodkar's extended Manchester operation, Purandare's cervicopexy, Shirodkar's sling operation and Soonawala's Unilateral sling operation. Of these we performed Purandare's cervicopexy.

27 patients interested either in childbearing and / or preserving their menstrual function was selected. One case of vault prolapse following abdominal hysterectomy for fibroid was included in the study in order to retain coital function.

Clinical evaluation of patients was done in the form of symptoms, degree of uterine descent, associated vaginal wall prolapse and fitness for anesthesia. Patients were subjected to Purandare's cervicopexy post – menstrually. Concurrent surgical procedure in the form of anterior and posterior colporrhaphy, tubal ligation, ovarian cystectomy, amputation of cervix, Moscovitz repair and Mc Call culdoplasty was performed were ever required.

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