

EVALUATION OF PELVIC ORGAN PROLAPSE IN INDIAN FEMALES

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ABSTRACT: AIMS: This prospective study was done to evaluate the patients of Pelvic Organ Prolapse (POP) about the duration they are suffering from POP and also the symptoms, the main determinants, degree of prolapse, associated pathologies and the treatment they received. **METHODS:** This prospective study was done in the patients who reported in Gynecology OPD of our hospital with POP from November 2012 to April 2013. They were asked about the duration they are suffering from prolapse, their chief complaints in detail, the determinants of POP (occupation, BMI, Parity, menopausal status) and were then examined for the degree of prolapse and associated pathologies, complications and the treatment given was recorded. The results are expressed in descriptive statistics by simple percentages with frequency tables. **RESULTS:** The mean age of women suffering from prolapse was 52.2 years in our study whereas the mean age at which they developed the symptom of something coming out per vaginum was found to be 36.32 years. 72.34% women were postmenopausal. Multiparity is major risk factor for prolapse which is proved by 97.88% women in our study being multiparous. Although obesity was not that major determinant in our study as 59.57% had normal BMI. The most common symptom was something coming out per vaginum (in 97.57%) followed by the disturbances in micturition found in 93.62% women. 80.85% women had third degree prolapse and cystocele was present in 95.74% women. Complications seen were decubitus ulcer, keratinization, elongated and congested cervix and hydronephrosis. Majority (74.4%) underwent vaginal hysterectomy with anterior colporrhaphy and posterior colpo-perineorrhaphy as the treatment of prolapse.

KEYWORDS: Pelvic Organ Prolapse, Determinants, Symptoms, Vaginal hysterectomy, Pelvic floor repair, India

INTRODUCTION: Pelvic organ prolapse (POP), a common disorder resulting from relaxation of the pelvic floor muscles [1,2]. But many women do not seek treatment because of embarrassment, or they are unaware that the condition can cause problems and that treatment is available. Although mortality resulting from POP is not significant [3]; it has a huge impact on the daily activities of women afflicted by this condition, often disrupting and decreasing their quality of life [4]

This study was conducted to find the main determinants of Pelvic Organ Prolapse, the main symptoms of women and the duration of these symptoms, degree of prolapsed they present with and the treatment they received.

Delancey's three levels of pelvic support. Reprinted from Barber, [5] with permission from the Cleveland Clinic Foundation

- Level 1: The cardinal-uterosacral ligament complex provides apical attachment of the uterus and vaginal vault to the bony sacrum. Uterine prolapse occurs when the cardinal-uterosacral ligament complex breaks or is attenuated.

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- Level 2: The arcus tendinous fascia pelvis and the fascia overlying the levator ani muscles provide support to the middle part of the vagina.
- Level 3: The urogenital diaphragm and the perineal body provide support to the lower part of the vagina.

Uterine prolapse occurs when pelvic floor muscles and ligaments stretch and weaken, providing inadequate support for the uterus. The uterus then slips down into or protrudes out of the vagina.^[6]

The true incidence of this disorder is not known because many of the cases are asymptomatic and many women feel shy to complain of uterovaginal prolapse^[7, 8]

Most women who develop prolapse are of menopausal age when the pelvic support become slack and atonic^[9]

If a weakness is present, the circumstances likely to precipitate the onset of prolapse are-increased intra-abdominal pressure (as in chronic cough, chronic constipation, ascites, lifting heavy weights, straining at stool, tumour)^[10], increased weight of uterus (resulting from subinvolution, myo hyperplasia)^[10] and traction on uterus by vaginal prolapse or by a large cervical polyp.^[10]

The degree of prolapse can vary from a very mild descent of the pelvic organs, to a severe descent in which the uterus, part of the bladder and part of the rectum (back passage) protrudes through the vaginal opening.

MATERIAL AND METHODS: In this study, women coming to gynecology OPD of our hospital with pelvic organ prolapse were examined and admitted and the consent of the woman was taken for including them in this study. The patient's age, Body Mass Index (BMI) and occupation were recorded. The detailed history of symptoms and the origin of symptoms were asked. The age at which symptom of something coming out per vaginum started was noted and the age at which they came for treatment was also noted. A detailed Obstetric history was asked as number of deliveries woman has undergone, what was the spacing between the children, whether they underwent home deliveries or hospital deliveries, normal or caesarean delivery. Their menstrual history was taken and if patient was menopausal patient, it was recorded.

Women were then examined in detail about the degree of prolapse and the associated cystocele, ureterocele, rectocele and the enterocele and recorded. If excessive dryness of the vaginal mucosa was there it was treated with Oestrogen cream applied daily with packing. If decubitus ulcer was present they were treated with betadine packing and woman was taken for operation only after the ulcer healed. All basic investigations were done for operation and their medical and anaesthetic fitness was taken before operation.

Depending on the age of women, her sexual status and her fitness, patient was given the options of treatment like vaginal hysterectomy with antero-posterior repair, Leefort's operation or pessary and were explained all the pros and cons of the surgery and the conservative management. The results were expressed in descriptive statistics by simple percentages with frequency tables.

RESULTS: In our study 35.11% women were in the age group of 41- 50 years who came for the treatment of prolapse and 34.04% of women were more than 60 years of age which almost contributes to one-third cases in our study (Table No. 1). The mean age of women suffering from prolapse in this study was 52.2 years, whereas the mean age at which these women had developed

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symptom of something coming out per vaginum was 36.32 years which reveals that mean time of suffering of these women was 16 years and these women did not come for treatment before because of the socio-cultural inhibitions, financial problems or due to the lack of knowledge of the treatment.

TABLES:

Age	Frequency	%
30-40 yrs	18	19.15
41-50 yrs	33	35.11
51-60 yrs	11	11.70
>60 yrs	32	34.04
Total	94	100%

Table No.1: Age distribution

Mean age of women suffering from prolapse 52.2 years.
 Mean age at which women had developed symptom of something coming out per vaginum 36.32 years
 Majority of the women were in the age group of more than 40 years. (Table No.1)

	Frequency	%
Farmer	36	38.29
Labourer	39	41.49
Others	19	20.22
Total	94	100

Table No. 2: Occupation

41.49% women in the study were labourers and thus had history of lifting heavy weights, which could be contributed as one of the factors for developing prolapse. (Table No. 2) 38.29% of women worked as farmers thus prolonged sitting in squatting position, no rest after the deliveries and heavy weight lifting were in their routine which would have contributed to the prolapse.

	Frequency	%
Premenopausal	26	27.66
Menopausal	68	72.34
Total	94	100

Table No. 3: Menopausal status of patients

During menopause because of the lack of estrogen, the supports of uterus are weakened and thus prolapse becomes more prominent after menopause. In our study 72.34% women were postmenopausal (Table No. 3) when they presented to us for the treatment. 27.66% women were

premenopausal, out of which 19.15% were less than 40 years (Table No. 1) The reason of prolapse in this age group could be explained due to early marriages in India and repeated pregnancies with less spacing between children and also the trend of deliveries being conducted at home.

	Frequency	%
0	-	-
1	2	2.12
2-4	51	54.26
5 and above	41	43.62
Total	94	100.00

Table No. 4: Parity

Repeated trauma to the Pelvic floor muscles due to repeated pregnancies is the major factor for developing prolapse. In our study, 43.62% women were grandmultiparas and the rest had minimum one delivery. (Table No. 4). None of the prolapse cases were of nulliparous prolapse, though we had a nulliparous woman who was complaining of something coming out per vaginum but when examined she had only rectocele and no uterine descent.

Median parity 5

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	Frequency	%
Normal<24.9	56	59.57
Overweight25-29.9	28	29.78
Obese>30	10	10.63
Total	94	100

Table No. 5: BMI

BMI though contributes to the determinants of prolapse but in our study 59.57% patients had normal BMI. Only 10.63% patients were in the category of Obesity.

Symptoms	Frequency	%
Something coming out P/V	92	97.87
Backache	84	89.36
Lower abdominal pain	77	81.92
Vaginal discharge	40	42.55
Disturbances in micturition(frequency, dysuria)	88	93.62
Stress incontinence	67	71.27
Difficulty in defecation	78	82.97
Excessive periods	15	15.95
Irregular bleeding	10	10.64
Bleeding due to ulcer	26	27.66
Inconvenience in walking & day-to-day activities	80	85.11

Table No. 6: Symptoms

The main symptom of the patients was something coming out per vaginum. Almost 97.87% women had this complaint and it gradually increased to the present state in all women (Table No.6).It was associated with backache in 89.36% patients which occurs in the prolapse patients because of the stretching of the ligaments. In 88 women there were associated complaints of difficulty in micturition, frequent micturition or inability to pass complete urine. Out of these 88 women, 67 women had stress incontinence.82.97% women also had difficulty in defecation.

Out of 26 women who were in the premenopausal age group, only 15 women complained of excessive periods and 10 women had irregular period.

85.11% women complained of inconvenience in walking and carrying out day-to-day activities due to prolapsed (Table No.6)

	Frequency	%
First degree	1	1.06
Second degree	17	18.08
Third degree	68	72.34
Procidentia	8	8.52

Table No. 7: Degree of Prolapse

After examining the patients majority of women (76%) presented as third degree and fourth degree (procidentia) prolapse due to late presentation.

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	Frequency	%
Urethrocele	32	34.04
Cystocele	90	95.74
Rectocele	88	93.62
Enterocoele	5	5.32

Table No. 8: Associated Pathology

Uterine prolapse is always associated with vaginal prolapse. In our study 90 patients had associated cystocele and 32 had urethrocele which both are types of anterior vaginal wall prolapse. 88 women had rectocele with uterine prolapse.

	Frequency	%
Keratinization	21	22.34
Decubitus ulcer	44	46.80
Elongated and congested cervix	15	15.95
Hydronephrosis	4	4.68
Renal failure	-	
Carcinoma	-	

Table No. 9: Complications

44 women presented to us with decubitus ulcer which occurs due to the decreased vascular supply on the most dependent part. 4 women had mild to moderate hydronephrosis which was diagnosed in Ultrasonography but their renal function tests were normal. Keratinization due to the long exposure into the outer environment was seen in 21 women out of 94.

	Frequency	%
Vaginal hysterectomy with 'AP' repair	70	74.47
Vaginal hysterectomy with 'P' repair	10	10.64
Leefort's operation	5	5.32
Ring pessary	8	8.51
Total Abdominal hysterectomy with BSO	1	1.06
Total	94	100.00

Table No.10: Mode of treatment

Majority of the patients (74.47%) were treated with vaginal hysterectomy with anterior colporrhaphy and posterior colpo-perineorrhaphy. Women who didn't have cystocele underwent vaginal hysterectomy with posterior colpo-perineorrhaphy. All patients in whom vaginal hysterectomy was done, External McCall sutures were taken so as to support the vault and prevent vault prolapse. 5 out of 94 patients agreed for Leefort's operation as they were widow or didn't have any sexual life and could not withstand long procedure due to medical problems. Only one patient underwent Total abdominal hysterectomy with bilateral salpingo-oophorectomy as she had a tubo-ovarian mass of 7 cm seen in ultrasound imaging. In that patient cystocele repair was done abdominally and posterior colpo-perineorrhaphy done after the abdominal procedure.

8 women were given ring pessary as their treatment as they were medically unfit and were explained that they had to change it 3 monthly. Patients were relieved of their symptoms immediately after the application of the ring pessary especially their prime symptom of something coming out per vaginum and were very much satisfied with it.

DISCUSSION: In our study almost one-third of women (32 of 94) were more than 60 years of age. The mean age of women with prolapse in our study was 52.2 years whereas in the study by Burrows

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et al [11] the average age was 58.8 years and Swift SE et al [12] had mean age of 44 years. This difference could be because the women in India due to social inhibitions and shyness present late for the treatment. The mean age at which our women started having symptom of something coming out per vaginum was 36.2 years. Developing symptoms at such young age could be attributed to the customs of early marriage and early and repeated pregnancies in India without proper spacing between deliveries.

In our study 72.34% women were post menopausal women and the rest were in the premenopausal age group. In the study by Burrows et al [11] 75% were postmenopausal, and 25% were premenopausal.

75 of 94 women in our study had history of lifting heavy weights throughout their lives as they were farmers or labourers by occupation and thus constant increased intra-abdominal pressure.

Vaginal birth is the most frequently cited risk factor for uterine prolapse [6]. The risk of Pelvic Organ Prolapse is increased 1.2 times with each vaginal delivery [6]. In our study also 41 of 94 women were grand multipara and the rest of 51 women had two to four deliveries, thus 97.87% were multiparous and majority of them complaint of the symptom something coming out per vaginum started after the childbirth, which suggests that vaginal delivery is one of the major determinant of prolapse. In our study the median parity was 5 and in the study by Burrows et al [11] the median parity was 3.

In India, a higher incidence and a more severe degree of uterovaginal prolapse occurs in women who are delivered at home by dais (untrained midwives) [13]. This is because the patients are made to bear down before full dilatation of the cervix, and when the bladder is not empty [13]. Also, the second stage of labour is prolonged with undue stretching of the pelvic floor muscles as episiotomy is not employed by the dais [13]. Almost more than 95% of women in our study had deliveries at home and conducted by untrained dais.

72.38% (68 out of 94) presented to us with third degree descent and another 8 patients had procidentia. This could be due to attaining late treatment because of socio-cultural and financial factors.

Vaginal prolapse can occur without uterine prolapse but the uterus cannot descend without carrying the upper vagina with it. [14] In our study 95.74% had associated cystocele with uterine prolapse and 34.4% women had urethrocele.

The most common symptom in our study was something coming out per vaginum. In the study by Christopher et al [15] the commonest symptom experienced by women with prolapse is the sensation or feeling, or seeing, a vaginal bulge. One of the important symptoms of prolapse is micturition disturbances [13]. The most frequent is imperfect control of micturition and stress incontinence [13]. In our study also 93.62% women had disturbances in micturition However from the degree of prolapse; the severity of symptoms could not be co-related. Several studies have shown a poor predictive value among symptoms, the degree of their severity, and the degree of prolapse in a particular vaginal compartment [16, 17, 18, 19]

Certain factors are considered in the management of uterine prolapse such as age, the desire for preservation of reproductive function, the desire for preservation of coital function, general medical status, previous attempts at surgical correction, symptomatology and physical examination finding [20].

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Brubaker et al [21] reaffirmed that in planning surgery, the individual patient's risk for surgery, risk of recurrence, previous treatments, and surgical goals are all considered in deciding on obliterative versus reconstructive procedures, and in deciding whether the vaginal or the abdominal approach will be used for reconstructive repairs. In our study we had 8 out of 94 patients who had conservative treatment in the form of pessary and the rest were treated surgically. In surgical management, 81 women (86.17%) had undergone reconstructive procedures i.e. hysterectomy with Pelvic floor repair and 5 had obliterative procedure (Leefort's procedure).

The greatest challenge in surgery for uterine prolapse is to prevent subsequent prolapse of either the vault or anterior or posterior walls of the vagina. Hysterectomy alone fails to correct the loss of integrity of the cardinal-uterosacral ligament complex and weakening of the pelvic diaphragm. A variety of procedures are available to support the vaginal vault at the time of hysterectomy. These include the vaginal procedures McCall culdoplasty; plication of the uterosacral ligament; sacrospinous or prespinous fixation for vaginal vault prolapse; and Sacrocolpopexy (performed via an open procedure or laparoscopically). In our study all women who had undergone vaginal hysterectomy, also had McCall culdoplasty done. A retrospective case control study compared 62 women having sacrospinous fixation with 62 women having McCall culdoplasty at the time of vaginal hysterectomy. It found that women who had McCall culdoplasty had fewer recurrences (15% v 27%). [22]

In our study women were advised for pessary only if they were not fit for surgery. 8 out of 94 women had pessary as their treatment and they were satisfied with it as their main complaint of something coming out per vaginum and the urinary complaints were relieved by it. Although evidence to support the use of pessaries is not robust, they are used by 86% of gynaecologists and 98% of urogynaecologists. [23] In a prospective study of 100 consecutive women with symptomatic pelvic organ prolapse fitted with a pessary, 73 women retained the pessary two weeks later. After two months, 92% of these women were satisfied with the pessary; virtually all symptoms of prolapse and 50% of urinary symptoms had resolved, although occult stress incontinence was unmasked in 21% of the women [24]

CONCLUSION: Uterovaginal prolapse affects women both in the child bearing age and post menopausal period. To some extent it is a man-made disease. As pregnancy and childbirth are such physiological phenomenon which cannot be prevented but we can prevent the repeated pregnancies at short intervals and deliveries by untrained dais at home. Thus multiparity, prolonged labour, deliveries by untrained dais, less spacing between children, menopause are significant determinants. Efforts should be taken towards public enlightenment and health education so that early marriages and early childbearing could be avoided and women should have the 'right' and courage to face this disease and receive treatment at earlier stage. Effective antenatal care, supervised hospital deliveries, limiting of family size and efficient use of contraception and mandatory Kegel's exercises after childbirth should be applied in reducing this disease so that our women can have better quality of life.

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