

Management of Pelvic Organ Prolapse in Post-Menopausal Women in Tertiary Care Hospital in Southern Odisha

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Abstract:

Background: Changes in a woman's pelvic floor function often accompany menopause. Weakening of the pelvic support structures can lead to pelvic organ prolapse, in which one or more organs (bladder, uterus, urethra, vagina, small bowel or rectum) of the pelvic area drops out of place. This problem affects 50% of parous women, and at least 50% of all women develop a mild form of genital prolapse after pregnancy.

Methods: An extensive literature review from 2019 to 2022 was performed on prolapse etiology and its risk factors; analyzing the data, we reviewed the genetic and biological aspects, age-related prolapse, biological tissue modifications, surgical problems, pelvic musculature modifications, and neuropathy.

Results: Data suggested that aging, pelvic trauma, and surgery evoke tissue denervation and devascularization, anatomic alterations, and increased degradation of collagen; all of these may lead to a decrease in mechanical strength and predispose an individual to prolapse. It has been demonstrated that there is a reduction in protein content and estrogens in uterosacral ligaments, in the vagina, and in the parametrium of women with prolapse. Increase in age, parity, spacing less than 3 years, increase BMI, delivery by unskilled dais were main contributing factors. Surgical procedures were more satisfying than conservative management with p value 0.04 and PGI I of 2 was highest recorded after surgical intervention.

Conclusion: Even if the etiology of pelvic prolapse is poorly defined and multifactorial, aging risk factors, such as biomechanical abnormalities in connective tissue composition, hormonal deficiency, and irregular tissue metabolism, are non-modifiable and therefore largely stated in clinical practice. Regardless of future developments, based on the reported findings, prolapse therapy will be more influenced by genetics, biological pelvic changes, changes in tissue homeostasis, and topical hormones, rather than general pelvic corrective surgical anatomy. Instillation of knowledge of kiegel's exercise proves to be an important factor for prevention of pelvic organ prolapse. Surgical management proved to be effective and more satisfying than conservative management.

Keywords: Pelvic Organ Prolapse, Pelvic Support Structures, Menopause.

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Introduction

“Prolapse “ refers to a descending or drooping of organs. It refers to the prolapse of any of the pelvic floor organs including bladder, uterus, vagina, small bowel, rectum. In North India the incidence of uterine prolapse is 7.6%, in East India 20%, in Southern India 3.4%. [1] Pelvic organ prolapse occurs due to weakened muscles or ligaments of pelvic floor. The causes are multifactorial. [2] It is often associated with deterioration in quality of life and may contribute to bladder, bowel, and sexual dysfunction. Extended life expectancy together

with expanding elderly population and motherhood has resulted in prolapse becoming an increasing trend. Pelvic organ prolapse is one of the most common causes of gynaecological morbidity in India and constitutes a major public health problem. [3] The principal causes of prolapse are obstetric trauma and post-menopausal atrophy [4]. The symptoms of pelvic organ prolapse include a sensation of vaginal fullness or dragging sensation in the lower abdomen, the feeling of firm mass within or coming out of vagina, low backache and

urinary symptoms including urgency, frequency, dysuria, stress incontinence, a feeling of incomplete emptying of the bladder and difficulty in the evacuation of the bowel. The symptoms have a significant impact on the bother and quality of life of the women. The factors are described as *predisposing, inciting, decompensating and promoting*. Predisposing factors related to POP are the probable hereditary, racial and possible genetic disposition for POP causing differences in the collagen concentration of the connective tissue [5]. Inciting factors most importantly include the strong connection between vaginal delivery, number of vaginal deliveries, increased birth weight of child, more than one perineal laceration, use of forceps [6]. Surgery to the pelvis including hysterectomy has furthermore been found to increase the risk of pelvic organ prolapse and subsequent pelvic organ prolapse surgery. A decompensating factor is the influence of ageing and influence of female hormone deficiency described by some and questioned by others [7]. Promoting factors are heavy weight with many heavy lifts and low income jobs, straining during defecation and constipation. Other factors are chronic cough are likely to promote development of pelvic organ prolapse. The only symptom specific for prolapse acknowledged consistently by patients with severe prolapse is the presence of a vaginal bulge that is either visible or perceptible [8]. In studies with self-reported symptoms of pelvic organ prolapse, expressions such as 'sensation of something falling out of the vagina' have been used to describe vaginal prolapse [9]. Contributing factors are age, menopause, increase in parity, previous gynaecological surgery, chronic pulmonary disease, smoking. However, observation of pelvic organ support in women examined at a regular gynaecological examination revealed that only 2% had prolapse that reached the introitus. Furthermore, a recently published study has indicated that pelvic floor-related symptoms do not predict the anatomical location in women with mild to moderate prolapse [10], and symptoms such as vaginal heaviness and pressure appear to have a weak relationship with pelvic organ prolapse. The International Continence Society (ICS), the

American Urogynecologic Society (AUGS) and the Society of Gynecologic Surgeons came to agreement in 1996, for a graded objective measure to be used in the assessment of female pelvic organ prolapsed [11]. This system provides characterisation of a woman's prolapse and allows a uniform recording method to be used by clinicians that enables contrast and disclosure of findings. This system was named the 'Pelvic Organ Prolapse Quantification (POP-Q) System' and is generally used in clinical setting. POP-Q is the more routinely used staging system seen in published research [12].

Objective

To study the demographic aspects, clinical factors, prevalence of pelvic organ prolapse, attitude, awareness and treatment seeking behaviour of women towards pelvic organ prolapse and treatment offered, outcome and follow up the patient.

Materials & Methods

This study was conducted in Maharaja Krushna Chandra Gajapati Medical College and Hospital, Berhampur, Odisha in the Department of Obstetrics and Gynaecology during the period of August 2020 to July 2022 after getting approval from ethical committee. 100 patients with pelvic organ prolapse were included in the study. Statistical methods were applied and the analysis performed in Microsoft Excel 2010. Percentage and proportion was found out. To measure the strength of association between two continuous variables, we used the Pearson's correlation coefficient (r). Levels of statistical significance were taken as $p < 0.05$.

Inclusion Criteria

1. Women who have attained menopause
2. Both nulliparous and multiparous

Exclusion Criteria

1. Women in menstruating age group
2. Before puberty

Obsevation and Result

Table 1: Sociodemographic profile of the study participants Overall (N=100)

Age	
Mean (SD)	61.35 (8.56)
Range	48.00 - 87.00
Age group	
45-55 Yrs	31 (31.0%)
56-65 yrs	41 (41.0%)
66-75 yrs	21 (21.0%)
>75 Yrs	7 (7.0%)
Occupation	
Farmer	6 (6.0%)
Housewife	76 (76.0%)

Labourer	16 (16.0%)
Shopkeeper	2 (2.0%)
Socio economic status	
High	2 (2.0%)
Low	85 (85.0%)
Middle	13 (13.0%)
BMI	
Mean (SD)	28.79 (4.36)
Range	17.00 - 35.60

Table 2: History and menopausal symptoms of the study participants Overall (N=100)

Parity	
Mean (SD)	3.87 (1.57)
Range	0.00 - 8.00
Mode of delivery	
LSCS	3 (3.0%)
Nil	1 (1.0%)
Vaginal delivery	96 (96.0%)
Spacing in years	
<3	79 (79.0%)
>3	21 (21.0%)
Surgical History	
Myomectomy	1 (1.0%)
Nil	94 (94.0%)
Abdominal hysterectomy&	1 (1.0%)
Vaginal hysterectomy	1 (1.0%)
Surgery for hernia	3(3.0%)
Place of delivery	
Home	58 (58.0%)
Hospital	41 (41.0%)
Nil	1 (1.0%)
Labour events	
Instrumental delivery	9 (9.0%)
Nil	3 (3.0%)
Prolonged labour	14 (14.0%)
Retained Placenta	4 (4.0%)
Uneventful	70 (70.0%)

Table 3: Treatment given to the patients Overall (N=100)

Treatment	
Apical vault fixation	1 (1.0%)
Lefort colpocleisis	1 (1.0%)
Modified radical hysterectomy	2 (2.0%)
Pessary	10 (10.0%)
Sacrospinous fixation	2 (2.0%)
TAH	1 (1.0%)
VH	7 (7.0%)
VH + PFR	76 (76.0%)

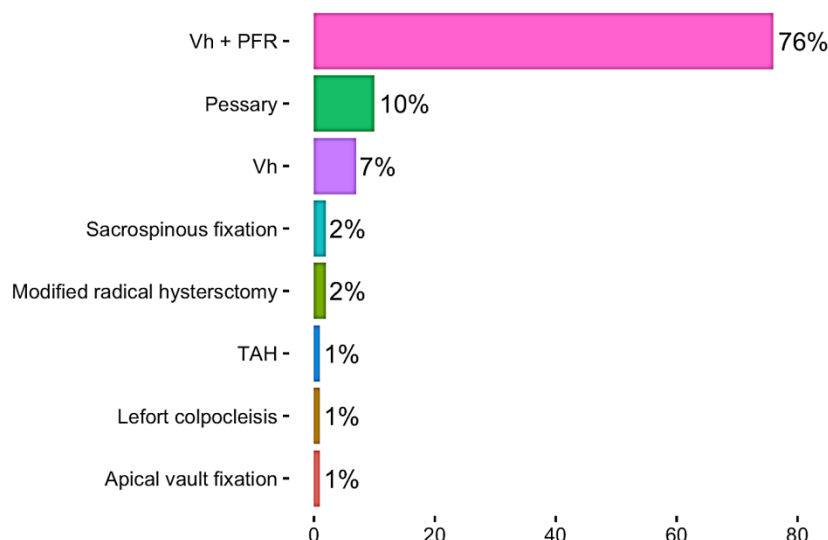


Figure 1: Treatment offered to the patients

Table 4: comparison between non conservative and conservative management of pelvic organ prolapse

	Conservative (N=10)	Surgery for POP (N=87)	Surgery of Vault Prolapse (N=3)	Total (N=100)
PGI-I				
Mean (SD)	3.10 (1.45)	2.13 (1.28)	2.67 (0.58)	2.24 (1.31)
Range	2.00 - 6.00	1.00 - 7.00	2.00 - 3.00	1.00 - 7.00

P Value: 0.040

In the study we had taken 100 patients with pelvic organ prolapse. On socio demographic profile of the study participants most of patients belonged to the age group 56 to 65 years, least were from >75 years. By occupation 76% were housewife, 2 % were shopkeeper. On basis of socioeconomic status most of the patients belonged to low socioeconomic status that is 85%, least were from high socioeconomic status. The mean body mass index was 28.79 kg/m² suggesting that the pelvic organ prolapse mostly found in patient with higher body mass index.

Considering the parity of the patients POP was prevalent more in parity >3, suggesting that with increasing parity the risk of having POP increased. Vaginal delivery was found to be the major risk factor with 96% of patients undergone vaginal delivery. Spacing of < 3 years was found in 79% of the patients. As the spacing is less there is more chance of having POP. A previous surgical history was not found to be significant in this study. Deliveries conducted at home without the presence of a skilled obstetrician or a trained dai resulted in more chance of POP. Among patients undergone delivery at hospital, significant history of prolonged labour 14%, Instrumental delivery 9%, retained placenta 4% was present.

Treatment offered to the patient, 76% of the patients underwent Vaginal hysterectomy with pelvic floor repair(VH+PFR). Vaginal hysterectomy was done in majority of the patients. Tran abdominal hysterectomy(TAH) and Modified

Radical hysterectomy was done only if other pathology was found. Pessary was offered as a conservative treatment to those patients who had a minor degree of prolapse as well as those patients who were unfit for surgery. Lefort colpocleisis was done in an old lady who did not want to retain her sexual function. Patient having vault prolapse underwent apical vault fixation, sacrospinous fixation with minimal complication. Following up patient after 1 month of treatment, Patient Global Improvement Index was found. The Patient Global Impression of Improvement (PGI-I) is a global index that may be used to rate the response of a condition to a therapy (transition scale). It is a simple, direct, easy to use scale that is intuitively understandable to clinicians.

As per scale 1 = very much improved

2=much improved

3= minimally improved

4= no change

5= worse

6= much worse

7= very much worse

Surgical treatment offered to patient with vault prolapse showed a mean of PGI-I of 2 suggesting much improved. P – value of 0.04 suggested that intervention and surgical treatment did have a considerable impact on patient and relieving them from symptoms that affected their day to day life.

Discussion

Pelvic organ prolapse was prevalent in menopausal age group with risk being increasing with increasing age. A study conducted by Bradley et al. of 259 post menopausal women Mean age was 68.1±5.5 years, and median vaginal parity was 4. 1-year and 3-year prolapse incidences were 26% (95% confidence interval [CI] 20–33%) and 40% (95% CI 26–56%). Increasing body mass index and grand multiparity increased the risk for vaginal descent progression. [13]

Increase in parity, lack of spacing, vaginal delivery act as contributing factors in this pathology along with it presence of genetic and predisposing factors.

Patients day to day life was affected in many cases women treated as untouchable, not allowed to participate in family chores, marital disharmony, and female sexual disorder. According to review by Pennycuff et al. pelvic organ prolapse was associated with psychological discomfort and impacted the sexual satisfaction of the women in 82.1 % of them. [14] It affected the mental peace, instilled low confidence in the women who with increasing age were added with this agony. In terms of women reporting to doctor regarding the problem it was found out that a minimum time period of 5 years was noted. Indirectly stating that either the women were not aware regarding the pathology or were ashamed of reporting the complaint to the hospital or discussing the problem with their family members. The mean age of getting married was early which showed with more childbirth more was the chance of pelvic organ prolapse.

In addition this women opting for vaginal delivery at home, delivered being conducted by untrained persons added to the woe. It was found out that people lacked knowledge regarding kegel exercise which in modern times is considered one of the best measures that can be adopted as a regular habit in women's lifestyle to prevent prolapse in future. Culligan et al. mentioned in the study that kegel exercise had important role in prevention as well as further follow up after surgical treatment of the patients. [15] Knowledge about aggravating factors after parturition like chronic constipation, heavy work, chronic cough etc., to be instilled in the general population.

Surgical management favoured the overall treatment methods offered to the patient. According to a review by Nygaard et al. Fifty-four studies covering 32 patient-reported outcomes were included. The number of validation studies per patient-reported outcome (one version of one questionnaire) ranged from 1 to 11. Reliability was the most reported measurement property, and most

measurement properties received an average rating of sufficient. [16]

Pelvic organ prolapse one of the most common and bothering gynaecological condition can be prevented by maintaining proper skills as well as creating awareness and educating people regarding this. It is sad to see women at this modern times are reporting with pelvic organ prolapse with decubitus ulcer, infested with maggots, bladder stone, incomplete evacuation of urine and stool etc to hospital. With proper education and awareness pelvic organ prolapse cases can reduce to significantly less number in coming future and improve the quality of life.

Conclusion

Women were adequately treated with regular tampon dressing, and surgery were planned. Women unfit for surgery for any reason were given the option of pessary. Others were treated with vaginal hysterectomy. Women with vault prolapse were surgically treated accordingly.

On follow up of the patients surgical treatment mostly cured the patients of the pathology, with PGI-I being highest recorded on the scale.

Few people came up with complications which were treated accordingly. This study was done on measuring the subjective feeling of the patient after the surgery, further study to be done on quantitative estimation of improvement in the patients.

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