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ORIGINAL RESEARCH

Judging The Clinical Presentation, Surgical Options, And Management Outcomes In Subjects With Pelvic Organ Prolapse

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Abstract
Background: Urinary incontinence and pelvic organ prolapse are common clinical conditions that affect various females globally including in India. Various surgical procedures are available to correct these disorders based on surgical expertise and clinical presentation. Presently, there is no gold standard procedure for treating uterine prolapse.
Aim: The present study aimed to assess the clinical presentation, surgical options, and management outcomes in subjects with pelvic organ prolapse.
Methods: The present study assessed all the females undergoing surgical management of urinary incontinence and pelvic organ prolapse at the Institute. Each study participant's clinical presentation and type of surgical management were noted. The outcome of the surgical management and follow-up was recorded concerning symptoms recurrence, patient satisfaction, complications, and quality of life. The data gathered were analyzed statistically.
Results: The study included 816 subjects with pelvic organ prolapse. 2/3rd of subjects worked in hard manual work and strenuous activities as laborers and farmers with 38% and 34.8% subjects respectively. 66.9% (n=546) subjects were in the post-menopause phase and 77.2% (n=630) subjects were multiparous and had few causes leading to a chronic increase in intra-abdominal pressure.The major presenting complaint was mass protruding from the vagina in 80.6% (n=658) of subjects. The major prolapse type was uterine prolapse in 93.4% (n=762) of subjects. Enterocele, rectocele, and cystocele were seen in 10.1% (n=84), 57.6% (n=470), and 73% (n=596) subjects respectively. The main surgical management done was vaginal hysterectomy with pelvic floor repair in 73.5% of subjects.
Conclusions: The present study concludes that pelvic organ prolapse is linked with various risk factors where few factors are modifiable. Despite many types of surgical options available, vaginal hysterectomy with pelvic floor repair is the most common surgery done for pelvic organ prolapse and results in satisfactory outcomes.
Keywords: cystocele, hysterectomy, pelvic organ prolapse, prolapse, rectocele

Introduction

POP (pelvic organ prolapse) is one of the most common clinical concerns seen in elderly females in India. Pelvic organ prolapse is a commonly encountered condition that is also distressing and is linked with a negative impact on the psychological, physical, and social well-being of the affected females. As many females are shy about the condition and do not reveal the uterovaginal prolapse owing to social concerns and hence, it is difficult to report the exact prevalence.[1]

POP is defined as the descent of one/more of the apex of the vagina (vaginal vault after hysterectomy), uterus, posterior vaginal wall, or anterior vaginal wall. POP is not a life-threatening condition that when left untreated can lead to various social concerns and compromise the quality of life in affected females. With the increase in life expectancy, the prevalence of uterovaginal prolapse is increasing. The cause of uterine prolapse is multifactorial where the mode of delivery plays a vital role. There are various predisposing and non-modifiable associated factors including genetics, gender, and race. Other can be infection, smoking, obesity, and occupation. Also, there are inciting risk factors such as childbirth that cause neural, vascular, connective tissue, and muscle

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damage. Postmenopausal females owing to genital atrophy and hypoestrogenic also play a vital role in the contribution to POP.[2]

Obesity has a direct effect on the symptoms of pelvic organ prolapse. A chronic rise in intra-abdominal pressure, comorbidities in obese subjects, and nerve damage all contribute to dysfunction of the pelvic floor. Also, despite parity being an established risk factor that could affect the prevalence of POP, it is not a risk factor for recurrence. Individual risk factors that could affect the prevalence of POP are well-established including race, vaginal deliveries, and age, comorbidities such as diabetes mellitus and hypertension should be considered for the development of POP.[3]

The most commonly seen symptom of POP is SCOPV (something coming out per vaginum) or the subject feeling the presence of vaginal bulge which could be seen along with urinary symptom as fecal incontinence, bowel outlet obstruction, voiding dysfunction, incontinence urgency, and increased frequency are common.[4]

Various literature studies on treatment, clinical manifestations, determinants, and prevalence modalities have been done and do not hold much validity in the Indian context. The determinants might differ based on healthcare-seeking behavior, socio-cultural features, and lifestyle of the subjects. Various surgical procedures for the correction of these disorders are available.[5] The present study aimed to assess the clinical presentation, surgical options, and management outcomes in subjects with pelvic organ prolapse.

Materials and methods

The present retrospective assessment study aimed to assess the clinical presentation, surgical options, and management outcomes in subjects with pelvic organ prolapse.The study subjects were from the Institute's Department of Obstetrics and Gynaecology, JNU Institute of Medical Science & Research Center, Jaipur, Rajasthan. Verbal and written informed consent were taken from all the subjects before participation.

The study assessed 816 subjects with pelvic organ prolapse who visited the Institute within the defined study period. The study included only symptomatic subjects where indoor admission was done and surgical procedures were carried out. Also, non-surgical management using pessary insertion and Kegel's exercise was done in the OPD of the institute.

In all the included subjects, medical records were reviewed comprehensively by trained staff, and data were entered in performed proforma designed for data extraction. The information gathered included occupation, parity, and age of the subjects along with determinants of the pelvic organ prolapse, presenting complaints, prolapse degree, and treatment details.

This was followed by recording the surgery type and other intraoperative complications, Also, any reported postoperative complications were noted. Recurrence was assessed and recorded after 12 months of follow-up.

Statistical analysis of the gathered data was done using SPSS (Statistical Package for the Social Sciences) software version 24.0 (IBM Corp., Armonk. NY, USA) for assessment of descriptive measures, Student t-test, ANOVA (analysis of variance), and Chi-square test. The results were expressed as mean and standard deviation and frequency and percentages. The p-value of <0.05 was considered.

Results

The present retrospective assessment study was aimed to assess the clinical presentation, surgical options, and management outcomes in subjects with pelvic organ prolapse.The study assessed 816 subjects with pelvic organ prolapse who visited the Institute within the defined study period. The majority of the study subjects were in the age range of 55-64 years with 37.3% (n=304) subjects followed by 26.2% (n=214) subjects in 45-54 years, 18.9% (n=154) subjects in 35-44 years, 15.4% (n=126) subjects in >65 years, and 2.2% (n=18) subjects in 25-34 years. In parity, parity of 0, 1, 2, 3, 4, and >5 was seen in 0, 1% (n=8), 17.6% (n=144), 26.1% (n=212), 17.1% (n=1400, and 38.2% (n=312) study subjects respectively. Occupation was housewives, education, laborers, and farmers in 15.4% (n=126), 11.8% (n=96), 38% (n=310), and 34.8% (n=284) study subjects respectively (Table 1).

On assessing the factors for pelvic organ prolapse in study subjects, the most common factor was multiparity reported in 98.8% (n=806) subjects followed by chronic intra-abdominal pressure in 77.2% (n=630) subjects, postmenopausal status in 669% (n=546) subjects, and overweight in 41.7% (n=340) study subjects respectively (Table 2).

It was seen that for clinical presentation in study subjects, first-degree, second-degree, third-degree, and procidentia were seen in 3.2% (n=26), 17.6% (n=144), 68.6% (n=560), and 10.2% (n=84) study subjects respectively. Prolapse type was a vault, enterocele, cystocele, uterine prolapse, and rectocele was seen in 6.6% (n=54), 10.1% (n=84), 73% (n=596), 93.4% (n=762), and 57.6% (n=470) study subjects respectively. The symptoms were protrusion of mass per vagina in 80.6% (n=658) subjects followed by urinary symptoms in 17.2% (n=140) subjects, backache, abdominal pain, impaired sexual function, ulceration, vaginal itching, and vaginal discharge in 15.9% (n=130), 14.2% (n=116), 7.8% (n=64), 6.9% (n=56), 6.4% (n=52), and 5.4% (n=44) study subjects respectively (Table 3).

The study results showed that for treatment strategies, most common treatment done was vaginal hysterectomy with pelvic floor repair in 73.5% (n=600) subjects followed by vaginal hysterectomy in 17.6% (n=144) subjects, sacro- colpopexy in 7.1% (n=44) study subjects, Le-Fort's colpocleisis in 1.2% (n=10) subjects, vaginal hysterectomy with

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sacrospinous fixation in 0.7% (n=6) subjects, and sacrospinous fixation in 0.5% (n=4) study subjects respectively (Table 4).

Concerning the complications associated with various surgeries in study subjects, the most common complication was blood transfusion needed in 6.8% (n=52) study subjects followed by urinary tract infection in 6.1% (n=500 subjects, secondary hemorrhage in 2.9% (n=24) subjects, recurrence and bladder injury in 1.7% (n=14) subjects each, urinary retention in 1.2% (n=10) subjects, and rectum injury in 0.5% (n=4) study subjects (Table 5).

S. No	Characteristics	Number (n)	Percentage (%)
1.	**Age range (years)**		
a)	25-34	18	2.2
b)	35-44	154	18.9
c)	45-54	214	26.2
d)	55-64	304	37.3
e)	>65	126	15.4
2.	**Parity**		
a)	0	0	-
b)	1	8	1
c)	2	144	17.6
d)	3	212	26.1
e)	4	140	17.1
f)	>5	312	38.2
3.	**Occupation**		
a)	Housewives	126	15.4
b)	Educated	96	11.8
c)	Laborer	310	38
d)	Farmer	284	34.8

Table 1: Demographic data of study participant

S. No	Parameters	Number (n)	Percentage (%)
1.	**Chronic intra-abdominal pressure**	630	77.2
2.	**Multiparity**	806	98.8
3.	**Post-menopausal status**	546	66.9
4.	**Overweight**	340	41.7

Table 2: Factors for pelvic organ prolapse in study subjects

S. No	Variables	Number (n)	Percentage (%)
1.	**Degree**		
a)	First degree	26	3.2
b)	Second degree	144	17.6
c)	Third degree	560	68.6
d)	Procidentia	84	10.2
2.	**Types**		
a)	Vault prolapses	54	6.6
b)	Enterocele	84	10.1
c)	Cystocele	596	73
d)	Uterine prolapse	762	93.4
e)	Rectocele	470	57.6
3.	**Symptoms**		
a)	Impaired sexual function	64	7.8
b)	Backache	130	15.9
c)	Abdominal pain	116	14.2
d)	Ulceration	56	6.9
e)	Vaginal itching	52	6.4
f)	Vaginal discharge	44	5.4
g)	Urinary symptoms	140	17.2
h)	Protrusion of mass per vagina	658	80.6

Table 3: Clinical presentation in study subjects

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S. No	Surgery type	Number (n)	Percentage (%)
1.	Le-Fort's colpocleisis	10	1.2
2.	Sacrospinous fixation	4	0.5
3.	Vaginal hysterectomy with sacrospinous fixation	6	0.7
4.	Sacro- colpopexy	44	7.1
5.	Manchester repair	8	1
6.	Vaginal hysterectomy with pelvic floor repair	600	73.5
7.	Vaginal hysterectomy	144	17.6

Table 4: Treatment strategies in study subjects for managing uterovaginal prolapsed

S. No	Complications	Number (n)	Percentage (%)
1.	Recurrence	14	1.7
2.	Urinary tract Infection	50	6.1
3.	Secondary hemorrhage	24	2.9
4.	Blood transfusion	52	6.8
5.	Urinary retention	10	1.2
6.	Rectum injury	4	0.5
7.	Bladder Injury	14	1.7

Table 5: Complications associated with various surgeries in study subjects

Discussion

The present study assessed 816 subjects with pelvic organ prolapse who visited the Institute within the defined study period. The majority of the study subjects were in the age range of 55-64 years with 37.3% (n=304) subjects followed by 26.2% (n=214) subjects in 45-54 years, 18.9% (n=154) subjects in 35-44 years, 15.4% (n=126) subjects in >65 years, and 2.2% (n=18) subjects in 25-34 years. In parity, parity of 0, 1, 2, 3, 4, and >5 was seen in 0, 1% (n=8), 17.6% (n=144), 26.1% (n=212), 17.1% (n=1400, and 38.2% (n=312) study subjects respectively. Occupation was housewives, education, laborers, and farmers in 15.4% (n=126), 11.8% (n=96), 38% (n=310), and 34.8% (n=284) study subjects respectively. These data were comparable to the studies ofCostantini E et al[6] in 2005 and Mishra U et al[7] in 2019 where authors assessed subjects with comparable characteristics and pelvic organ prolapse as seen in the results of the present study.

Concerning the assessment of the factors for pelvic organ prolapse in study subjects, the most common factor was multiparity reported in 98.8% (n=806) subjects followed by chronic intra-abdominal pressure in 77.2% (n=630) subjects, postmenopausal status in 669% (n=546) subjects, and overweight in 41.7% (n=340) study subjects respectively. These results were consistent with the findings of Isık H et al[8] in 2016 and Maher C et al[9] in 2004 where factors for pelvic organ prolapse similar to the present study were also reported by the authors in their respective studies.

The study results showed that for clinical presentation in study subjects, first-degree, second-degree, third-degree, and procidentia were seen in 3.2% (n=26), 17.6% (n=144), 68.6% (n=560), and 10.2% (n=84) study subjects respectively. Prolapse type was a vault, enterocele, cystocele, uterine prolapse, and rectocele was seen in 6.6% (n=54), 10.1% (n=84), 73% (n=596), 93.4% (n=762), and 57.6% (n=470) study subjects respectively. The symptoms were protrusion of mass per vagina in 80.6% (n=658) subjects followed by urinary symptoms in 17.2% (n=140) subjects, backache, abdominal pain, impaired sexual function, ulceration, vaginal itching, and vaginal discharge in 15.9% (n=130), 14.2% (n=116), 7.8% (n=64), 6.9% (n=56), 6.4% (n=52), and 5.4% (n=44) study subjects respectively. These findings were in agreement with the results of ZebedeS et al[10] in 2013 and Dietz V et al[11] in 2008 where the clinical presentation of POP reported by the authors was similar to the present study.

It was seen that for treatment strategies, the most common treatment done was vaginal hysterectomy with pelvic floor repair in 73.5% (n=600) subjects followed by vaginal hysterectomy in 17.6% (n=144) subjects, sacro- colpopexy in 7.1% (n=44) study subjects, Le-Fort's colpocleisis in 1.2% (n=10) subjects, vaginal hysterectomy with sacrospinous fixation in 0.7% (n=6) subjects, and sacrospinous fixation in 0.5% (n=4) study subjects respectively. These results correlated with the findings ofRoovers JP et al[12] in 2004 and Barber MD et al[13] in 2016 where treatment strategies for POP similar to the present study were also adopted by the authors in their respective studies.

On assessing the complications associated with various surgeries in study subjects, the most common complication was blood transfusion needed in 6.8% (n=52) study subjects followed by urinary tract infection in 6.1% (n=500 subjects, secondary hemorrhage in 2.9% (n=24) subjects, recurrence and bladder injury in 1.7% (n=14) subjects each, urinary retention in 1.2% (n=10) subjects, and rectum injury in 0.5% (n=4) study subjects. These findings were in line with the results ofAkter F et al[14] in 2016 and Elbiss HM et al[15] in 2015 where complications associated with various surgeries for POP reported by

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the authors in their studies were comparable to the results of the present study.

Conclusion

Considering its limitations, the present study concludes that pelvic organ prolapse is linked with various risk factors where few factors are modifiable. Despite many types of surgical options available, vaginal hysterectomy with pelvic floor repair is the most common surgery done for pelvic organ prolapse and results in satisfactory outcomes.

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