

Evaluation of the Predisposing Factors of Uterovaginal Prolapse in Women Admitted in Gynaecology WardAnupma¹, Gopal Sharan Singh², Anupama Sinha³¹Assistant Professor, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College and Hospital, Bhagalpur, Bihar²Assistant Professor, Department of Surgery, Jawaharlal Nehru Medical College and Hospital, Bhagalpur, Bihar³Professor and Head of Department, Department of Obstetrics and Gynaecology, Jawaharlal Nehru Medical College and Hospital, Bhagalpur, Bihar

Received: 25-01-2024 / Revised: 23-02-2024 / Accepted: 26-03-2024

Corresponding Author: Dr. Gopal Sharan Singh

Conflict of interest: Nil

Abstract:

Background: Uterovaginal prolapse is an abnormal protrusion or herniation of pelvic organs from its normal position in the pelvis, due to failure of anatomical support. The prevalence of uterovaginal prolapse is difficult to be determined because many women are asymptomatic and many are hesitant to discuss with family. It can be considered a silent epidemic. The cause of uterovaginal prolapse is multifactorial. The parity, mode of delivery, postmenopausal status, and obesity is some of the factors affecting the severity. The condition is preventable and by counseling and care during antenatal and postnatal period, the prevalence of this condition can be curtailed and quality of life can be improved. Aim of this study to evaluate the predisposing factors of uterovaginal prolapse in women admitted to the gynaecology ward.

Methods: A retrospective study was done for a period of one year from January 2022 to December 2022 at Jawaharlal Nehru Medical College and Hospital, Bhagalpur, Bihar. The women admitted in gynaecology ward with symptoms of mass per vagina were included in the study. The data was retrieved from medical records of the department. The case file as per inclusion and exclusion criteria was identified and included in the study. The information of risk factors was collected using patient proforma. The pelvic organ prolapse quantification system (POPQ) approved by international continence society was used for categorizing uterovaginal prolapse. Data was analysed using SPSS version 20. Frequencies, percentage and mean computed to describe the variables of the study. The Chi-square test was used to compare variables. The statistical significance $P < 0.05$ was considered significant.

Result: Total 206 patients had uterovaginal prolapse. The prevalence was 1.8%.

Conclusion: The multiparity, prolonged and difficult deliveries, delivery by untrained personnel, mismanaged third stage of labour involving injury to sphincters and vaginal tears are determinants of prolapse uterus. Further postmenopausal condition causing hypoestrogenic state causes weakening of ligaments, collagen and aggravates the condition. Hence, preventive measures like institutional delivery, delivery by trained personnel; menopausal clinics may help the target population.

Keywords: Parity, Determinants, Predisposing, Uterovaginal prolapsed.

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

According to Novak's textbook of gynaecology, 16th edition, Pelvic organ prolapse is defined as, "descent of one or more of the anterior vaginal wall, posterior vaginal wall, the uterus(cervix), or the apex of the vagina (vaginal vault or cuff scar after hysterectomy)," correlating with symptoms, assisted by any relevant imaging. [1]

It is the progressive herniation of the pelvic organs through the urogenital diaphragm that most commonly leads to vaginal bulge symptoms. Women with prolapsed beyond the hymen may

also report lower urinary tract incontinence, urgency, frequency or voiding difficulty and bowel symptoms like obstructed defecation, fecal incontinence. [1] POP is multifactorial in etiology with combination of anatomical, physiological, genetic, lifestyle and reproductive factors. [2]

Data from the Women's Health Initiative revealed anterior POP in 34.3%, posterior wall prolapse in 18.6% and uterine prolapse in 14.3% of women. [1] It has a detrimental effect on women's psychological, social, emotional and physical well-

being. [3]As the women age advance, pelvic floor dysfunction becomes more and more troublesome as it effects quality of life, workforce productivity and cost to the individual as well as whole healthcare system. [4] The recognition of determinants for development of pelvic organ prolapse will help physician to target at risk women for professional counseling on preventive behaviour and life style changes.

The pelvic organ prolapse determinants will aid in building a risk model for identification of low and high risk women. Since this condition is considered a social taboo, women suffering often do not tell their problems even to the closest kin and continue to suffer which in turn effects their quality of life. Hence, it can be called a "Silent Epidemic". Owing to the fact that this condition is very much preventable by better counseling in antenatal and postnatal period, the prevalence of this condition can be curtailed, and thereby quality of life can be improved.

Materials and Methods

This hospital based observational retrospective study was conducted at Department of Obstetrics and Gynaecology Department of Jawaharlal Nehru Medical College and Hospital, Bhagalpur, Bihar from January 2022 to December 2022. Data was collected from gynaecological case entry register,

gynaecological ward admission register, case files and operation theatre records. The medical records were reviewed by trained staff and data entered into proforma. The information collected were sociodemographic characteristics (age, parity, occupation) determinants of uterovaginal prolapse, presenting complaints, degree of prolapse and treatment modalities. The data were analyzed using SPSS version 20 and results were entered as percentage and frequency table. The frequency, percentage and mean will be computed to describe the variables of the study. The statistical significance $P < 0.05$ will be considered significant.

Included all women diagnosed with Cystocele, Cyst urethrocele, Uterine prolapsed, Vault prolapsed, Rectocele and enterocele, Pregnancy with prolapsed. Women with Nerve injury or disease, neuromuscular disease, Genital tract malignancy, Intra-abdominal tumours were excluded in this study.

Result

The sociodemographic profile of patients is shown in Table 1. The mean range of patient in our study was 52.84 years. The range was between 25 years and 74 years. Nearly 35.9% of study population was above 55 years. 4.3% presented with prolapse in the age group below 35 years.

Table 1: Socio-demographic profiles

Variable	Number of patients	Percentage
Age		
25-34	9	4.3%
35-44	43	20.8%
45-54	52	25.2%
55-64	74	35.9%
>65	28	13.6%
Parity		
0	8	3.8%
1	14	6.8%
2	21	10.2%
3	48	23.3%
4	68	33.0%
>/=5	47	22.8%
Occupation		
Farmer	69	33.4%
Labourer	59	28.6%
Educated/employed	41	19.9%
Housewife	37	17.9%

3.8% presented with prolapse in nulliparous age group and 22.8% women were grand multiparous. 33.4% were farmers, 28.6% were labourers. 19.9% were well-educated and employed while 17.9% were housewives. In Table 2, the analysis of determinants and risk factors for uterovaginal

prolapse were done. The uterovaginal prolapse was present in multiparous women 84.4% of cases and 74.4% in post-menopausal women.

80% of cases were due to chronic intraabdominal pressure like constipation, chronic cough and strenuous physical work.

Table 2: Determinants of uterovaginal prolapsed

Variables	No. of patients	Percentage
Overweight	70	33.9%
Postmenopausal state	154	74.7%
Multiparity	174	84.4%
Abdominal mass	2	0.97%
Chronic intraabdominal pressure	165	80.0%
Duration of risk factors		
1	183	88.8%
2	160	77.6%
>2	128	62.1%

While overweight was in 33.9% of cases and abdominal mass in 0.97% of cases. 62.1% of women had more than 2 risk factors, 77.6% had 2 risk factors and 88.8% had 1 risk factors. The clinical symptomatology and presentation of patients were done in Table 3. 97% of cases presented with protrusion of mass per vagina, 88% presented with urinary symptoms, 85.4% presented with vaginal discharge, 38.8% presented with

vaginal itching, 27.1% presented with ulceration and 4.8% presented with impaired sexual function. The uterine prolapse was present in 94.1% of cases, cystocele in 67.9%, rectocele in 58.2% of cases and enterocele in 41.2% of cases.

Further 2.9% had procidentia, 67.9% had third degree prolapse, 7.2% had second degree prolapse and 21.8% had first degree prolapse.

Table 3: Clinical Presentation

Symptoms	No. of patients	Percentage
Mass per vagina	200	97%
Urinary symptoms	176	85.4%
Vaginal discharge	80	38.8%
Vaginal itching	25	12.13%
Ulceration	56	27.18%
Impaired sexual function	10	4.8%
Type of Prolapse		
Uterine prolapse	194	94.1%
Cystocele	140	67.9%
Rectocele	120	58.2%
Enterocele	85	41.2%
Degree of prolapsed		
First degree	45	21.8%
Second degree	15	7.2%
Third degree	140	67.9%
Procidentia	6	2.9%

The treatment modalities offered was shown in Table 4. The surgical treatment was given in 77.1% of cases, vaginal hysterectomy in 7.2% of cases, vaginal hysterectomy with pelvic floor repair in 69.9% of cases. Non-surgical modalities were offered in 22.8% of cases like pessary in 0.97% and kegels exercise in 21.8% of cases.

Table 4: Treatment modalities for uterovaginal prolapsed

Variables	No. of patients	Percentage
Non-surgical	47	22.8%
Pessary	2	0.97%
Kegels exercise	45	21.8%
Surgical	159	77.1%
VH	15	7.2%
VH with PFR	144	69.9%

Discussion

The uterovaginal prolapse accounts for 1.8% of prevalence in gynaecological OPD. The incidence in Okankuo et al. is 2.1%. [1] The incidence according to Eleji et al. is 6.5%. [2] The difference in incidence may be due to ethnicity, awareness

among the patients, social stigma and hesitancy to show to the doctors, ignorance and lack of education and health facilities.

The mean age of patients was 52.84 years. The study shows it is more common in postmenopausal age group due to estrogen deficiency and its

complications. [1,2] There is significant association with the parity. 89.3% of women had 2 or more children. 22.8% of women were grand multipara. Hence, multiple pregnancy and delivery can be attributed as a predisposing factor for symptomatic uterovaginal prolapse. [3,4]

There is significant association between number of vaginal deliveries, duration of labour, vaginal tear and sphincter damage in previous childbirths. [4–6] The process of aging and resultant estrogen deficiency causes loss of collagen and weakness of fascia and connective tissue which results in uterine prolapse. [7] Regarding the occupation, 28.6% were labourers, 33.4% were farmers and 17.9% were housewives. 62% of the patients were farmers and labourers, involved in heavy and strenuous physical activities. [8] The major determinants for uterovaginal prolapse are postmenopausal state (74.7%) and multiparity (84.4%).

The chronic intraabdominal pressure contributed to 80% of cases. The study showed excessive stretching and tearing during multiple deliveries attributed to pelvic organ prolapse. Also, postmenopausal state which leads to estrogen deficiency and weakness of fascia and connective tissue contributed to the uterovaginal prolapse. [9] 70% of women had more than two risk factors. 97% of patients were symptomatic to mass per vagina.

The bulging or mass protruding out of vagina was a predominant presenting symptom. [10] The other symptoms were obstructive symptoms like urinary symptoms like hesitancy, incomplete voiding, digital reposition before voiding. The impaired sexual function was present in 4.8% of cases. Some patients were worried about social stigma and were hesitant to share the sexual history. [11]

The posterior compartment defects caused pressure symptoms and constipation. The treatment modalities available are both surgical and non-surgical. About 22.8% were treated nonsurgically and 77.1% were treated surgically in our setup. The women with anaemia, postpartum period, pregnancy, elderly women with comorbidities were offered vaginal pessary. The patients who had first degree prolapse and minimal cystocele were taught kegels exercise. 69.9% of patients underwent vaginal hysterectomy with pelvic floor repair and 7.2% underwent vaginal hysterectomy. This treatment is in accordance to some studies. [12,13] The vaginal hysterectomy with pelvic floor repair still remains treatment of choice for patient with prolapse who have completed family. [14,15]

References

1. Okonkwo JE, Obiechina NJ, Obionu CN. Incidence of pelvic organ prolapses in Nigerian women. *J Natl Med Assoc.* 2003;95(2):132–6.

2. Eleje G, Udegbunam O, Ofojebe C, Adichie C. Determinants and management outcomes of pelvic organ prolapse in a low resource setting. *Ann Med Health Sci Res.* 2014;4(5):796–801.
3. Sujindra E, Himabindu N, Sabita P, Bhupathy A. Determinants and treatment modalities of uterovaginal prolapse. A retrospective study. *Indian J Health Sci.* 2015; 8:36–40.
4. Sumathi N, Nandini CC. Uterovaginal Prolapse-A Study in South Indian Women. *Sch J Appl Med Sci.* 2017;5(4F):1698–1704.
5. Ghetti C, Gregory WT, Edwards SR, Otto LN, Clark AL. Pelvic organ descent and symptoms of pelvic floor disorders. *Am J Obstet Gynecol.* 2005;193(1):53–7.
6. Bradley CS, Nygaard IE. Vaginal wall descensus and pelvic floor symptoms in older women. *Obstet Gynecol.* 2005;106(4):759–66.
7. Ballard AV, Meyer I, Varner RE, Gleason JL, Richter HE. Pelvic Organ Prolapse. In: Berek JS, editor. *Berek & Novak's Gynaecology.* Philadelphia: Wolters Kluwer. 2020;1592–1649.
8. Delancey JO, Low LK, Miller JM, Miller DA, Tumbarello JA. Graphic integration of causal factors of pelvic floor disorders: An integrated life span model. *Am J Obstet Gynaecol.* 2008;199(6):610.
9. Abdel-Fattah M, Familusi A, Fielding S, Ford J, Battacharya S. Primary and repeat surgical treatment for female pelvic organ prolapsed and incontinence in parous women in the UK: a register linkage study. *BMJ Open.* 2011;1(2):e000206.
10. Wu JM, Hundley AF, Fulton RG, Myers ER. Forecasting the prevalence of pelvic floor disorders in US Women: 2010 to 2050. *Obstet Gynaecol.* 2009;114(6):1278–83.
11. Mekonnen BD. Prevalence and Factors Associated with Uterine Prolapse among Gynecologic Patients at University of Gondar Comprehensive Specialized Hospital, Northwest Ethiopia. *J Women's Health Care.* 2020;9(4):492.
12. Mishra U, Poonam, Prasad U. Pelvic Organ Prolapse-Four year's review from IGIMS, Patna. *Int J Contemp Med Res.* 2019;6(10):1–4.
13. Ghetti C, Gregory WT, Edwards SR, Otto LN, Clark AL. Pelvic organ descent and symptoms of pelvic floor disorders. *Am J Obstet Gynecol.* 2005; 193:53–60.
14. Bradley CS, Nygaard IE. Vaginal wall descensus and pelvic floor symptoms in older women. *Obstet Gynecol.* 2005;106(4):759–66.
15. Smith AR. Pelvic floor dysfunction I: Uterovaginal prolapse. In: Edmonds DK, editor. *Dewhurst's Textbook of Obstetrics and Gynecology.* London: Blackwell Publishing Inc; 2007;497–9.