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Original Article

A 10-year review of records of patients managed for pelvic organ prolapse at a University Teaching Hospital, in Northeast Nigeria

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Abstracts
Background: Pelvic organ prolapse (POP) is an important gynaecological condition as is associated with the deterioration of the quality of life of the patients. The aetiology is multifactorial and most women do not seek medical attention until symptoms become unbearable. **Objective**: To determine the prevalence of POP and assess the clinical presentation and management of patients with POP in our hospital. **Methodology:** A retrospective review of surgically managed cases of POP at the University of Maiduguri Teaching Hospital from 1st January 2010 to 31st December 2019. Data analysis was done using SPSS version 25 and the results were expressed as percentages **Results:** The prevalence of surgery for POP was 4.3% of major gynaecological surgical surgeries. The majority of the patients were at least 40 years old (56.8%) and grandmultiparas (72.9%). The most common presenting complaint was something coming down the vagina (93.2%) and the commonest risk factor was unsupervised home delivery (83.8%). The most common type of POP was UV prolapse (67.6%), and the most common surgical treatment offered was a vaginal hysterectomy and pelvic floor repair. **Conclusion:** Advanced maternal age, grandmultiparity and unsupervised home delivery were some of the risk factors for POP in this study. Supervision of delivery by a skilled birth attendant with the use of a partograph can prevent this important gynaecological condition.

Keywords: *Pelvic organ prolapse, Retrospective review, UMTH*

Introduction

Prolapse is defined as the protrusion of an organ or structure beyond its anatomical confines.[1] Various other terms have been used to describe this condition including Pelvic organ prolapse (POP), Genital prolapse, Uterovaginal prolapse, Urogenital prolapse, and Vaginal prolapse.[1] Urogenital prolapse is further classified based on the anatomical location of the prolapse structure into Cystocele, Urethrocele, Rectocele, Enterocele, and Uterovaginal prolapse.[1,2]

The incidence of prolapse in female African women is difficult to estimate with accuracy as most of the women do not seek medical attention until symptoms are pronounced and disturbing.[1] The lifetime risk of a woman having surgery for prolapse is 11%.[3,4] Urogenital prolapse accounts for approximately 20% of elective gynaecological surgery and up to 50% in elderly women in the UK.[4] In Nigeria, POP accounted for 1.6% of gynaecological surgery in Gombe, Gombe state northeastern Nigeria, and Abraka, Delta state, south southern Nigeria, 2.3% in Ibadan, southwestern Nigeria, 3.4% in Enugu, 2.7% in Nnewi southeastern Nigeria, and 1.4% in Sokoto, northwestern Nigeria.[5-9]

Prolapse occurs when there is a weakness in the supporting structures of the pelvic floor (the levator ani muscles, ligaments, and fascia) allowing the pelvic viscera to descend and ultimately fall through

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the anatomical defect.[3,4] There is three level of supporting ligament and fascia. Level 1 support is provided by the transverse cervical and uterosacral ligament. Failure of this results in uterine and vaginal vault prolapse. Failure of level II support which is provided by pubocervical and rectovaginal fascia results in cystocele and rectocele. Failure of level III support provided by posterior vaginal fascia and perineal body also results in cystocele and rectocele.[1-4] The aetiology of POP is multifactorial.[1-3,10] Prolapse may follow labour in which the woman tried to bear down before full cervical dilatation or vacuum extraction in the first stage of labour due to overstretching and subsequent damage to the cardinal and transverse cervical ligament.[1] The risk of POP increased 1.2 times with each vaginal delivery.[10] Withdrawal of ovarian hormones following menopause causes atrophy and weakness of pelvic ligaments and tissues resulting in POP.[10,11] The risk of POP also increases with increasing maternal age.[1-3]

Black and Asian women have a lower risk of POP compared to white and Hispanic women.[11] Women with connective tissue disorder are more likely to develop POP.[10,11] Raised intraabdominal pressure seen in obesity, chronic cough, chronic constipation, and repetitive heavy weight lifting can also be associated with the development of POP.[2-4]

Women with POP may be asymptomatic. However, symptoms of POP include a feeling of something coming down the vagina, lower back pain, frequency, urgency, hesitancy, urge incontinence, the need to splint before completion of urination or defecation, odynochezia, dyspareunia and marital disharmony.[1-11] POP is demonstrated and stage on vaginal examination.[1,2,4]

Treatment of POP depends on the presentation. This can be conservative which includes lifestyle modification, pelvic floor muscles exercise and the use of pessaries. Surgical management includes anteriocolporrhapy, posterior colpoperiniorrhapy, paravaginal repair, Manchester repair, colpocleisis, vaginal hysterectomy with pelvic repair, abdominal hysterectomy, sacrocolpopexy, sacrospinoushysteropexy.[1-11]

POP can be associated with the deterioration of the quality of life of the patients and with the increasing life expectancy; more women will develop this condition making it an important gynaecological condition. The main aim of this study was to determine the prevalence of POP and review the clinical presentation and management of patients with POP in our hospital with the view of finding possible ways of improving the management of this important gynaecological condition.

Materials and method

This was a 10-year retrospective review of the records of all cases of pelvic organ prolapse surgically managed at the University of Maiduguri Teaching Hospital, Maiduguri, Borno state. Nigeria (January 2010 and December 2019).

The hospital numbers of patients surgically treated for POP were identified from gynaecological ward admission and discharge registers, case files, and theatre records. This was then used to retrieve the patients' case notes from the central record library. Data were extracted from the case notes using a proforma designed for the study that included sociodemographic characteristics (age, parity, occupation, and marital status), presenting symptoms and risk factors of POP. Other information extracted was the type of POP, grading of the POP which was done on vaginal examination using the Baden-Walker system,[2] and the treatment offered.

Data analysis was done using the statistical package for social sciences (SPSS) version 25 (IBM SPSS Statistics) and the results were expressed as percentages and presented in tables

Results

During the study period, a total of 1,897 major gynaecological surgeries were done, out of which 82 were due to pelvic organ prolapse giving a prevalence of 4.3%. Seventy-nine case folders were retrieved from the central record library, and only 74 cases have complete data giving a retrieval rate of 90.2%

Table 1 shows the sociodemographic characteristics of the study population. The majority of the patients 56.8% (42/74) were above the age of 40 and 72.9% (54/74) were at least Para 5. Most of the women were married 78.4% (58/74) and were housewives 67.6% (50/74). About 64.9% (48/74) of the patients were premenopausal while 35.1% (26/74) were post-menopausal.

Table 1: Sociodemographic characteristics of the study population

	Frequency (n=74)	Percentage
Age group		
<40	32	43.2
40-49	15	20.3
50-59	5	6.8
≥60	22	29.7
Parity		
0	0	0
1-4	20	27
>5	54	72.9
Marital status		
Married	58	78
Divorced	3	4.0
Widowed	13	17.6
Occupation		
Civil servant	12	16.2
Housewife	50	67.6
Student	2	2.7
Others	10	13.5
Menopausal status		
Premenopausal	48	64.9

Table 2 depicts the Presenting complaints of the study group. The commonest presenting symptom was the feeling of something coming down the vagina 93.2% (69/74) followed by low back pain (71.6%).

Table 2: Presenting complaints of the study group

Symptoms (n=74)	Frequency	Percentage
Something coming down the vagina	69	93.2
Low back pain	53	71.6
Urinary frequency	25	33.8
Feeling of incomplete bladder emptying	25	33.8
Splinting to complete urination	22	29.7
Stress incontinence	15	20.3
Urge incontinence	12	16.2
Urgency	11	14.9
Hesitancy	4	5.4
Ordynochezia	10	13.5
Interference with sexual activity	13	17.6
Postmenopausal	26	35.1

NB: Some patients have more than one presenting complaint

The most common risk factor was home delivery 83.8% (62/74) followed by difficult labour and grandmultiparity. Other risk factors in this study included age greater than or equal to 40 years 56.8% (42/74), COPD 5.4% (4/74) and lifting of heavyweight 4.1% (3/74). This was shown in Table 3.

Table 3: Identified risk factors of POP in the study group.

Risk factors (n=74)	Frequency	Percentage
Home delivery	62	83.8
Difficult labour	54	73.0
Grandmultiparity	54	73.0
Age ≥ 40	42	56.8
COPD	4	5.4
Heavy weight lifting	3	4.1

NB: Some patients have more than one risk factor. COPD = Chronic obstructive pulmonary disease.

The commonest type of POP in this study was UV prolapse at 67.6% (50/74) followed by cystocele at 45% (33/74) and rectocele at 18.9% (14/74). No enterocele or vault prolapse was seen within the study period. Majority of patients with UV prolapse presented with grade 3 (58%) whereas those with cystocele and rectocele presented with grade 2 (79.4% and 85.7% respectively).

Table 4 reveals the type of surgery done for the management of the patients in the study group. All patients in this study had a surgical intervention with a vaginal hysterectomy and pelvic floor repair being the commonest surgical intervention offered at 55.4% (41/74). Anterior vaginal wall repair and posterior vaginal wall repair were done for 35.1% (26/74) and 9.5% (7/74) respectively.

Table 4: Type of surgery done for the management of patients in the study group

Type (N=74)	Frequency	Percentage
Hysterectomy + pelvic floor repair	41	55.4
Anterior vaginal wall repair	26	35.1
Posterior vaginal wall repair	7	9.5

Discussion

The prevalence of POP in this study was 4.3% of all major gynaecological surgeries. This is relatively closer to the 3.4% reported in Enugu but much higher than those reported in Gombe, Delta, Ibadan, Nnewi and Sokoto.[5,9] This prevalence is however lower than those reported in Ghana (12.07%), Ethiopia (23.52%), Tanzania (64.6%), and 20% of gynaecological surgeries reported in the UK.[4,12-14] The reason for that lower prevalence was due to the sampling of only the patient who underwent surgical treatment. Many asymptomatic patients or patients on conservative management were not included in the study. Also, women in this environment don't present early until the disease is advanced or symptoms become unbearable.[1]

Fifty-six per cent of women in this were at least 40 years old and age greater than 40 years is an established risk factor for POP.[15-17] This may be due to physiologic ageing and degenerative processes and from hypooestrogenism.[10]The risk of POP increases with increasing parity.[1-4,10] This was confirmed in this study with 73% having a parity of at least 5. A similar finding was reported in Sokoto, Umuahia, and Port Harcourt.[18-20] Damage to the pudendal nerve, thinning and avulsion of puborectalis from its insertion on the pubic ramus following childbirth could be the reason.[11]

The of the patients were premenopausal (64.9%). This corroborated well with the report from a previous study in Sokoto by Yakubu et al,[18] and maybe as a result of women marrying early and having a desire for large family size. Interestingly, up to 35.1% of the patients are postmenopausal. This is not surprising because the low estrogenic state following menopause results in weakness of muscles and ligaments support of the pelvic floor.[1-11]

Unsupervised home delivery and difficult labour are major risk factors for POP in this study accounting for 83.8% and 73% respectively. This finding was similar to that reported in this environment.[4,12] This may result from prolonged stress on the neuromuscular support of the pelvis and their eventual damage.[11]

The commonest presenting complaint is something coming down from the vagina (93.2%), followed by low back pain. This was similar to the report of a study by Oraeke et al in Umuahia.[19] The most common form of prolapse in this study was apical (uterus) prolapse (67.6%). This contradicted report given in literature where cystocele was said to be the commonest type of prolapse with uterine prolapse being the least.[2] This can be explained by the poor health-seeking behaviour of our women and that is why most of the women with uterine prolapse presented with grade 3 disease (58.0%). Vaginal hysterectomy and pelvic floor repair was the most common surgical treatment done for these patients (55.4%) which is in keeping with reports from other centres,[4-9,19,20] and UV prolapse being the most common type of POP in this study.

Conclusion

Pelvic organ prolapse is a common gynaecological condition in our environment and it is responsible for 4.3% of our gynaecological surgeries. Increasing maternal age, grandmultiparity, unsupervised home delivery and difficult labour were some of the risk factors for pelvic organ prolapse identified in this study.

Recommendation

The general public should be enlightened on the need for supervised hospital delivery, and measures should be taken to prevent prolonged labour by monitoring labour with a partograph. There is a need for community study to get the true incidence and burden of this important gynaecological condition.

Limitations

This was a retrospective review therefore the effect of POP on the quality of life of the patients was not studied.

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