Prevalence and Determinants of Utero-vaginal Prolase in Southern Nigeria

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SUMMARY

Background: Utero-vaginal (u-v) prolapse is primarily a disease of the parous and often elderly post-menopausal women. The number of ageing women appears to be increasing in proportion due to the increasing life expectancy.

Methods: This was a retrospective review of the service delivery records (case notes, ward and Theater records) of 21 women who presented with u-v prolapse at the gynaecological unit of University of Port Harcourt Teaching Hospital over a 5-year period.

Results: The incidence of u-v prolapse is 1.6% per total number of patients who underwent major gynecological surgeries. The leading determinants of u-v prolapse were – multiparity, difficult delivery, menopause, ageing and physically exerting occupations. Others were no formal education or low levels of education and diet.

Conclusion: We recommend that there is a need for public health education geared towards enlightening the populace on the need for antenatal care and supervised hospital delivery, reduced family size, improved nutrition, and the need for hormone replacement therapy for post-menopausal women particularly high parity individuals. Finally, female education should be given priority attention.

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INTRODUCTION

Available evidence suggests that utero-vaginal (u-v) prolapse is primarily a disease of the parous and often elderly post-menopausal women[1]. The true incidence is uncertain due to the fact that a number of women with u-v prolapse may not present for management due to the privacy attached to the

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affectation of the sexual/reproductive organs coupled with the stigmatization accorded associated clinical entities such as urinary and fecal incontinence[2]. However, existing data suggest that about 50% of parous women suffer some form of genital tract prolapse and only 10-20% of them seek medicare[3].

The aetiopathogenesis of this clinical condition is thought to be multifactorial, and women with u-v prolapse exhibit a weakening of the pelvic support structures either as a result of congenital or acquired causes[2]. Individuals with the congenital variants have been found to have defective collagen[4], while the acquired causes are sequel to estrogen deficiency as in menopause or mechanical damage largely from poorly supervised labour and delivery[1,5]. Reports[5-8] indicate that poorly supervised child birth irrespective of parity is the strongest predictor of u-v prolapse.

Though not a life threatening condition, it is a source of severe morbidity and psychological upheaval to the patient, who is often socially withdrawn and stigmatized[9]. It is one of the common indications for major pelvic reconstructive gynecological surgeries. The challenge of management is that despite the multiplicity of various surgical alternatives of treatment by the abdominal and vaginal routes, there may be failure to achieve effective and sustained support. Worst still, is the fact that investigating and managing associated conditions of fecal or urinary incontinence is herculean in face of paucity of facilities and skills for treatment. Only recently, the World Health Organization (WHO) alerted all nations including developing countries of the need for greater recognition of the health of ageing women, since the number of ageing women appear to be increasing in proportion to the increasing life expectancy of each population[10]. This is likely to result in increasing number of women presenting with this important gynecological entity in the coming years, and the incidence can substantially be reduced if the predisposing conditions are addressed. It is against this background that this study was conceptualized to document the prevalence and determinants of u-v prolapse in southern Nigeria. We believe that the findings of this study is capable of identifying useful interventions for designing programs that will lead to a reduction in the burden of u-v prolapse in Nigeria.

METHODOLOGY

This was a retrospective review of the service delivery records (case notes, ward and theater records) of 21 women who presented with u-v prolapse at the gynecological unit of University of Port Harcourt Teaching Hospital (UPTH) from the

1st January 1993 to 31st December 1998. The UPTH provides tertiary care to Port Harcourt and its environs in South-south Nigeria. A data collection sheet designed for the study was used to collect relevant information from the service delivery records of the patients. The information obtained included – the sociodemographic profiles (age, parity, occupation, educational status, ethnic origin) of the patients, the hemoglobin concentration as an index of the nutritional status, duration of labor and past delivery events. The occupations of the patients were classified into two broad categories – the physically exerting and non-physically exerting. The study was approved by the human ethics committee of the UPTH.

All patients seen in this series were post-menopausal and had vaginal hysterectomy and pelvic floor repair as surgery of choice. However, patients with strong aversion for removal of the uterus were offered Manchester repair as alternative surgical mode of treatment. Labor is said to be normal in duration if it is less than or equal to 12 hours and prolonged if it is greater than 12 hours in duration. The information obtained and recorded on the data collection sheet designed for the study was then coded. The coded data were fed into the computer using the EPI-info 2000 programme. And was then transformed from EPI–info to a more robust statistical software of SPCC PC+ and analysis were conducted. This consisted of univariate analysis and comparisons of identified relationships. Test of the statistical significance was based on 95% confidence interval using Chi – square test with the Yates or Fischer exact correction where applicable.

RESULTS

Within the study period, 1330 patients underwent major gynecological operations at the UPTH. Of these, 186 patients had elective hysterectomies and 21 were on account of utero-vaginal (u-v) prolapse. This gives a u-v prolapse incidence of 1.6% per total number of patients who underwent major gynecological surgeries and 11.3% of total hysterectomies undertaken. Two (9.5%) patients with 2nd degree u-v prolapse who were strongly averred to hysterectomy had Manchester repair done while majority (90.5%) of the patients had vaginal hysterectomy and pelvic floor repair.

The mean age of the patients in this series was 64 years with majority (85.7%) of the patients within the age bracket of 51 to 70 years, the age range being 48 to 74 years (table 1). The patients were all parous and post-menopausal, with 19 (90.5%) being grand multiparous and 2 patients having ten or more deliveries. Over three-quarter (76.2%) of the patients had no formal education and none had tertiary level of education. A greater proportion (76.2%) of the women were engaged in physically exerting occupation that predisposed them to prolonged periods of raised intra-abdominal pressure. They were mainly from the Ikwerre (33.3%), Ibo (19.0%) and Etche (14.3%) tribes located in the upland area of Rivers state of Nigeria and lesser proportion from the riverine area. The inhabitants of the upland area were usually engaged in physically exerting occupations.

Above two-thirds (61.9%) of the patients had prolonged labor i.e. labor duration greater than 12 hours. Overall, 42.9% of the patients had prolonged labor with difficult vaginal deliveries, while 19.0% had prolonged labor with forceps delivery.

Nine (42.1%) of the patients had mild to moderate anemia and 1 (4.8%) had severe anemia. The case of severe anemia was a patient with 3rd degree u-v prolapse which was complicated with a decubitus ulcer and she bled repeatedly from it. The patients with anemia except for one were all from the upland area.

Table i: Sociodemographic Profiles

Parameter	Frequency (N)	%
Age (YRS)		
<40	-	-
41 – 50	1	4.8
51 – 60	8	38.1
61 – 70	10	47.6
>70	2	9.5
Mean = 64 years, range 48-74 years		
Parity		
0	-	-
1 – 4	2	9.5
> 5	19	90.5
Education status		
None	16	76.2
Primary	3	14.3
Secondary	2	9.5
Tertiary	-	-
Occupation		
Physically exerting	16	76.2
Physically non-exerting	5	23.8
Ethnic group		
Ahoada	2	9.5
Etche	3	14.3
Ikwerre	7	33.3
Ibo	4	19.0
Okrika	1	4.8
Ogoni	2	9.5
Ijaw	1	4.8
Kalabari	1	4.8

Table 2: Duration of labour and past delivery events

Parameter	Frequency (n)	%
Labor duration		
Normal labor (NL)	8	38.1
Prolonged labor (PL)	13	61.9
Mode of delivery		
NL with SVD**	8	38.1
PL with difficulty VD*	9	42.9
PL with forceps delivery	4	19.0

*VD = vaginal delivery, ** SVD = spontaneous vaginal delivery

Table 3: Haemoglobin concentration (index of Nutritional status)

Hemoglobin concentration	Frequency (N)	%
<5 gm/d	1	4.8
6-9 gm/d	9	42.1
> 10 gm/d	11	52.4

DISCUSSION

This study was conceptualized to document the prevalence and determinants of u-v prolapse in southern Nigeria. This was premised on the belief that the findings of this study would help identify useful interventions that will be used to design programs that will lead to a reduction in the burden of u-v prolapse in Nigeria. The incidence of u-v prolapse of 1.6% from this study is lower than that of earlier reports from other parts of the country[11,12]. It is also lower than values from the Caucasian settings with a range of 12-30% [13]. The probable explanations for this are that the exact prevalence of prolapse is difficult to determine as often prolapse is not complained about and only a handful of women with prolapse will seek help[2], possibly dilutional effect from the large number of patients with other gynecological complaints and change in occupation brought about by the devastation of farmland due to oil and gas prospecting activities in the Niger-Delta region of Nigeria such that the inhabitants no longer undertake physically exerting activities of farming and trading in heavy farm produce.

The entire patients seen and managed in this series were parous with majority having had prolonged and difficult deliveries. This confirms the well established fact that childbirth particularly that following difficult labor is the strongest predictor of acquired genital tract prolapse[5-8]. These findings compare favorably with the reports from Jos and Ilorin respectively in Northern Nigeria[14,15]. This is also in consonance with the WHO Population Report (1984)[16] in which it was suggested that prolapse was up to seven times more common in women who had more than seven children compared to those who had one. Over 90% of the patients in this series were grand multiparous with two patients having ten or more deliveries. The exact mechanism by which childbirth causes pelvic organ prolapse is poorly understood, but studies of the levator ani and fascia have shown evidence of nerve and mechanical damage in women with prolapse[2]

It is in evidence that the process of ageing can result in loss of collagen and weakness of fascia and connective tissue, and that this effect is accentuated during the post-menopausal period due to estrogen deficiency[2,13]. The findings of this study confirm this, as the mean age of the patients in this series was 64 years with all the patients being post-menopausal. The exact import of ethnicity as a likely etiological factor in the development of u-v prolapse in this study is unclear. The ethnic groups (Ikwerres, Ibo, Etche, Ahoada, Okrikas and the Ogonis) accounting for a larger proportion of the u-v prolapse are inhabitants of the upland areas of the state where they are involved in physically exerting occupations and the ethnic groups (Ijaws and the Kalabari) of the riverine areas contributing a smaller proportion of the cases are involved in physically non-exerting occupations. Race as a risk factor for development of congenital u-v prolapse has long been documented[2]. It probably operates through genetic mechanisms that result in defective collagen formation. However, we are unable to establish this for certain in these patients either directly by genetic studies which were not done or by way of historical records in the case notes, but what seem to be certain is that probably the occupation was more responsible for the

development of the u-v prolapse in these cases. Further studies looking at the role of race and genetics in development of u-v prolapse are recommended and advocated for.

Education seems to confer protective effect on the development of u-v prolapse. Overall, over 90% of the patients had no formal education or at best primary level of education. While the remaining had secondary level of education and nobody with tertiary level of education presented with u-v prolapse. The likely explanation for this effect is that the educated women are less likely to have large family size, they are more likely to have antenatal care and supervised hospital delivery, they are better nourished and less likely to be subjected to physically exerting occupation.

Adverse dietary influences in particular vitamin c deficiency have been widely reported to be associated with u-v prolapse[2]. In this review we could not directly ascertain the link of diet to the development of u-v prolapse in these patients. However, we relied on the packed cell volume (PCV) level as an indirect means of assessing the dietary status of the patients. A good proportion (46.9%) of the patients were anemic which are most probably nutritional, and therefore one can infer that the diet is a likely intermediating factor in the development of u-v prolapse in Nigerian women. Anemia as a risk factor for u-v prolapse has been previously reported[17].

In summary, the incidence of u-v prolapse in this study is low. The leading determinants of u-v prolapse were – multiparity, difficult delivery, menopause, ageing and physically exerting occupations. Others are no formal education or low levels of education and diet. We recommend that there is a need for public health education geared towards enlightening the populace on the need for antenatal care and supervised hospital delivery, reduced family size, improved nutrition, and the need for hormone replacement therapy for post-menopausal women particularly high parity individuals. Finally, female education should be given priority attention.

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