Frequency of Cervix Dysplasia in Women with Prolapsed Uterus: Cross-Sectional Descriptive Study at Panzi General Referral Hospital

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Abstract

Introduction: According to the WHO (January 7, 2022), cervical cancer is the second leading cause of cancer death worldwide among women of child-bearing age. However, cervical cancer is highly preventable and treatable due to its well-known disease history which goes through several detectable pre-cancerous phases with available treatments. There are very few data on the prevalence of dysplastic lesions of the cervix in the Democratic Republic of the Congo. Panzi General Referral Hospital is a care center for women with genital prolapse, and our study aimed to determine the prevalence of dysplastic lesions of the cervix in this particular population. **Methodology:** This is a cross-sectional study of all women aged ≥ 18 years who consulted at the HGR Panzi from September 01 to December 31, 2022, diagnosed with uterine prolapse and who consented to the study. **Results:** The mean (±SD) age of the patients was 47.44 (±14.42) years and the majority (67.7%) of them were aged 40 and over. For all of the respondents, the Pap smear was normal in 62.6% and inflammatory in 2% of cases, while cytological abnormalities, which were found in 35.4% of cases, including 12.1% of lesions high-grade dysplastic (HSIL), *i.e.* 12 out of a total of 99 women examined. **Conclusion:** Women with uterine prolapse are twice as likely to develop dysplastic lesions as the general female population. A screening and management program for these lesions is essential in our preoperative protocol at the HGR Panzi and at the national level in general.

Keywords

Cervical Dysplasia, Uterine Prolapse, Panzi General Hospital, DRC

1. Introduction

Dysplasia corresponds to a morphological alteration of the cervix testifying to the existence of a neoplastic process at an early, non-invasive stage.

According to the WHO, cervical cancer is the second leading cause of cancer death among women of reproductive age worldwide. [1] In 2018, 90% of deaths from cervical cancer in the world occurred in low-income countries due to lack of screening and treatment. Human papillomavirus is the causative agent of cervical cancer in 99% of cases. Several factors contribute to the increase in cervical cancer in developing countries: lack of screening, early sexual debut, multiple sexual partners and sexually transmitted infections [2]. It is also sometimes suggested, without clear evidence, that in women with Uterovaginal prolapse, the extravaginal location of the uterus is a protective factor against cervical cancer, while others believe that the development of a neoplastic lesion is related to epithelial erosion from rubbing against clothing [3].

Cervical cancer is a preventable public health threat because its history is well known and it passes through several detectable pre-cancerous stages for which different treatment strategies are available [4]. Screening is currently based on cytological analysis following a cervical smear. [5] In Africa, the incidence of cervical cancer is increasing every year. East Africa, like other parts of the continent, has cervical cancer incidence (42.7 per 100,000) and mortality (27.6 per 100,000) rates significantly higher than the global incidence (14.0 per 100,000) and mortality (6.8 per 100,000). [5] However, epidemiological data on cervical cancer are not well documented in most sub-Saharan African countries. Only 17% of African countries have a national programme and specific budget for cervical cancer control, and where a programme exists, actual coverage may be low [6].

In the Democratic Republic of the Congo, the health system is poorly structured and underfunded, and many health structures have been destroyed as a result of armed conflict, particularly in the east of the country, where surviving hospitals are often poorly equipped and lack qualified medical staff [7].

There is very little data on the prevalence of cervical dysplasia in the DRC. This could be extrapolated from data in sub-Saharan Africa. [7] In 2019, the study conducted by Nyakio *et al.* in Bukavu (eastern of the Democratic Republic of the Congo) found a prevalence of 14.72% of cervical cytopathological abnormalities in the general female population, with 5.28% of cervical dysplasia [8].

Thus, as a reference center for the management of genital prolapse in eastern DRC, our study was conducted to determine the prevalence of cervical dysplastic lesions in women diagnosed with uterine prolapse.

2. Methodology

2.1. Type, Population and Study Setting

This is a descriptive cross-sectional study of all women aged ≥ 18 years who consulted at HGR Panzi from 01 September to 31 December 2022, who were di-

agnosed with uterine prolapse and who consented to the study. During the study period, we systematically recruited patients using a non-probabilistic sampling method with no pre-determined quota. Underage girls, women followed up for cervical cancer and all of those who did not consent to the study were excluded from the study

2.2. Data Collection

At general medical and gynaecological consultations, all women with uterine prolapse (all stages combined) who consented to our study underwent a cervical smear test after instruction by trained and qualified medical staff.

The cytopathological analysis allowed us to describe the different cytopathological aspects of the squamous intraepithelial lesions according to the Bethesda 2001 system [9]:

* Absence of intraepithelial lesions;
* Inflammatory smears;
* Metaplasia (non-neoplastic transformation);
* Epithelial cell abnormalities;
- Of undetermined significance (ASC-US)
- High grade squamous intraepithelial lesion (ASC-H) cannot be excluded
* Low grade squamous intraepithelial lesion (LSIL - LMIEBG);
* High grade squamous intraepithelial lesions (HSIL - LMIEHG);

(including lesions formerly known as moderate and severe dysplasia, CIN2, CIN3 and CIS)

* Squamous cell carcinoma.

Women with abnormal cytopathology were counselled after testing and referred for management or follow-up.

Slides were read by two pathologists independently using an Olympus CX23 light microscope. If both readers agreed on the same findings, the conclusion was maintained. If there was disagreement, a third pathologist was required and the conclusion was that shared by the two readers.

2.3. Data Processing and Analysis

Data were collected from a register of codes, names and cytopathology results, and were entered and cleaned using Microsoft Excel 2016. Data were presented as tables and figures. Descriptive statistics were used Categorical variables were summarised by frequencies and their percentages.

2.4. Ethical Considerations

We obtained the approval of the South Kivu Provincial Ethics Committee and the consent of each patient with a guarantee of confidentiality.

3. Results

From 1 September to 31 December 2022, a total of 99 women who met our criteria were enrolled and all received a cervical smear (CUS) (Table 1).

Table 1. Distribution of respondents by socio-demographic characteristics.

Characteristics	N = 99 (%)
Age group (years)/ mean (±SD)	47.44 (±14.39) years
<40	30 (30.3)
≥40	69 (67) 69.7
Characteristics (cytopathological appearance)	N = 99 (%)
Absence of lesions = normal	32 (32.3)
Inflammatory	2 (2.0)
Metaplasia (mild and severe)	30 (30.3)
ASCUS (atypia)	1 (1.0)
AUC-G (atypia)	2 (2.0)
Dysplasia (LGD)	20 (20.2)
Dysplasia (HGD)	12 (12.1)

The mean age (±SD) of the patients was 47.44 (±14.42) years and the majority (67.7%) were over 40 years of age. In our sample, 62.6% were married, 27.3% were widows and 85.3% were illiterate.

We found cytological abnormalities in 35 women with uterine prolapse or 35.3% of our sample. Of these, 12 women, or 12.1%, had high-grade dysplasia/squamous lesions.
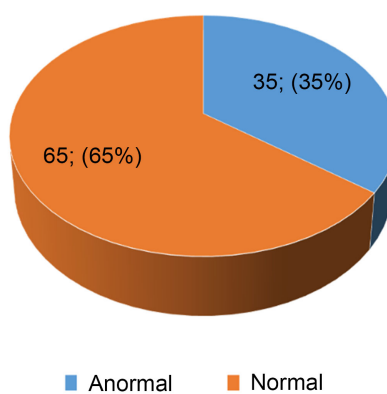
Figure 1. Normal smear and abnormal smear.

We divided these characteristics into two groups (Figure 1):
- *normal smear*: absence of lesions, inflammatory smear and metaplasia
- *abnormal smear*: cellular atypia and dysplasia

Table 2. Distribution of respondents according to clinical characteristics and smoking.

Characteristics	n = 99 (%)
Mean parity (±SD)	8 (±2)
Multipara	39 (39.4)
Grand multiparous	60 (60.6)
Age at first sexual intercourse (years)	16 (11 - 21) years
<18	75 (75.8)
≥18	24 (24.2)
Contraception	
No	98 (99.0)
Yes	1 (1.0)
Smoking	
No	90 (90.9)
Yes	9 (9.1)
Number of sexual partners	
≤1	84 (84.8)
2 - 3	12 (12.1)
>3	3 (3.0)
Menopause	
No	51 (51.5)
Yes	48 (48.5)
Degree of prolapse	
First	12 (12.1)
Second	56 (56.6)
Third	16 (16.2)
Fourth	15 (15.2)
Type of prolapse	
Externalized	32 (32.3)
Internalized	67 (67.7)

More than half of the women were grand multiparous (60.6%), with an average of 8 ± 2 children. The majority of them had had their first sexual intercourse between the ages of 11 and 21 (75.8%), and 84.8% had known only one sexual partner. The majority of women did not use tobacco (90.9%), did not use contraception (99%) and just over half (51.5%) were postmenopausal. Several of them (56.6%) had a second degree prolapse and in 67.7% the prolapse was internalized. We did not find any patient with HIV positive (Table 2).

Table 3. Association between degree of prolapse and cytopathological appearance.

Characteristics	Cytopathological aspect		p-Value
	Anormal [n = 35 (35%)]	Normal [n = 64 (65%)]	
Degree of prolapse			0.028
First	8 (66.7)	4 (33.3)	
Second	18 (32.1)	38 (67.9)	
Third	7 (43.8)	9 (56.3)	
Fourth	2 (13.3)	13 (86.7)	

We find a statistically significant association between the degree of prolapse and the cytopathological aspect (p = 0.028) (Table 3).

4. Discussion

Almost half of the women were aged 40 years and over (67.7%) with a median age of 47 years Our observations are similar to those of Yesessaian A *et al.* in the USA who found a median age of 42 years [10]. A similar study was conducted by Söderlund S *et al.* in Sweden who found a median age of 43.5 years [11], while Catarino R *et al.* in Cameroon found a median age of 39 years [12]. This is explained by the fact that the majority of women who consult for uterine prolapse are grand multiparous and therefore about 8 children on average per woman [13] [14].

• Early age at first sexual intercourse is one of the risk factors for the occurrence of dysplastic lesions of the cervix documented by the vast majority of authors. Compared to our results (75.8%), Catarino R *et al.* had reported in their series in Cameroon that 69.4% of women had their first sexual intercourse before the age of 19 and Olivier N. *et al.* found in their series that 67.5% of women had their first sexual intercourse between the ages of 15 and 20. Lack of schooling and early marriages are one explanation for this phenomenon.

• The multiplicity of sexual partners constitutes, in the same way as the precocity of the age at first sexual intercourse, a risk factor for the occurrence of cervical dysplastic lesions. In the series by Olivier N. *et al.*, the number of sexual partners did not mostly exceed five (87%). In contrast to the results in our series, the number of sexual partners was mostly 1 (84.8%) with only 3 women out of 99 having had more than three partners.

• Overall, the majority of authors reported a considerable rate of multiparous women in their studies on dysplastic lesions of the cervix [15], which is in the same order as the results of the similar study in the DRC by Olivier N. and coll. Our series did not find any nullipara or primipara. All our respondents were either multiparous (39.4%) or grand multiparous (60.6%). This confirms the reason for consultation of women (presence of a mass in and outside the vagina) and the total ignorance rotakce on cervical cancer and how to prevent it.

• The rate of dysplastic lesions was significantly higher in postmenopausal

women. The sensitivity of cytology and HPV testing seems to decrease in older women and colposcopy also becomes more difficult because more lesions are inside the endocervical canal after menopause and are less amenable to examination. colposcopic detection. Therefore, the focus is on ensuring adequate screening between ages 45 and 65, rather than continuing screening later in life [16].

• The use of hormonal contraception in women carrying an oncogenic human papillomavirus multiplies by four the risk of progression to cancer [17]. In our study, only 1% of women had used hormonal contraception. Catarino R *et al.* found in their study in Cameroon a very low rate of women using hormonal contraception (13.9%) but still higher than ours. The population is Christian and the churches discourage the use of contraceptive methods other than natural methods.

• Tobacco use is one of the risk factors for cervical cancer [17]. Our study reveals a low rate of women who use tobacco (9.1%). Shin SS *et al.* in India had a much lower rate than ours of 1.8% of women who had ever used tobacco [18].

• In 2019, the study by Nyakio *et al.* in South Kivu (Eastern DRC) found a prevalence of 14.72% of cytological abnormalities in women in sexual activity [8]. Contrary to our study, the risk is multiplied by two in women with prolapse. Our study also found 15 times more high-grade dysplastic lesions in women with prolapse than in the sexually active female population, *i.e.* 12.1% versus 0.8%. Wang JJ *et al.* [19] in China found: a normal FCU in 71.7% of cases versus 14.8% ASCUS; 8.7% LSIL and 2.3% HSIL. This would be explained by the fact of this chronic inflammation or erosion by the vestimentary tissues of the exteriorized collar.

5. Conclusions

The high frequency of dysplastic lesions in women with prolapse than in the general female population reveals a serious public health problem in South Kivu and by extension in the DRC.

This study is a pilot to motivate a larger national study and a basis for developing strategies to improve cervical cancer control in our country. These results also highlight the need to improve awareness of risk factors, including uterine prolapse.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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