Scientific Research Publishing

Open Journal of Obstetrics and Gynecology, 2025, 15(8), 1270-1276
https://www.scirp.org/journal/ojog
ISSN Online: 2160-8806
ISSN Print: 2160-8792

Experience in the Treatment of Pre-Invasive Cervical Lesions between 2019 and 2024 in Yaounde, Cameroon

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How to cite this paper: Mboua Batoum, V.S., Ebong, C., Tompeen, I., Nsahlaï, C., Dongmo, R., Mpono, P., Esssiben, F., Mawamba Nkene, Y., Nkwabong, E. and Ngo Um Meka, E. (2025) Experience in the Treatment of Pre-Invasive Cervical Lesions between 2019 and 2024 in Yaounde, Cameroon. *Open Journal of Obstetrics and Gynecology*, **15**, 1270-1276.
https://doi.org/10.4236/ojog.2025.158102

Received: July 2, 2025
Accepted: August 11, 2025
Published: August 14, 2025

Abstract

Introduction: Cervical cancer is a significant public health concern in Cameroon, ranking as the second most common cancer among women in terms of both incidence and mortality. This study aims to describe the experience of treating pre-invasive cervical lesions and to evaluate clinical outcomes and success rates associated with these treatments. **Methodology:** This was a retrospective descriptive study conducted during the period from January 2019 to October 2024 at the Yaoundé Central Hospital and University (CHUY). Data were collected after obtaining consent, through the patients' records, admitted for cervical cancer screenings. Pre-invasive lesions were treated using cryotherapy, thermoablation, or conization. Follow-up of patients was conducted at 6 weeks, 6 months, and 12 months after treatment. **Results:** A total of 5963 patients were screened. The screening was based on visual inspection with acetic acid, followed by Lugol's iodine. It was positive in 190 participants (3.1%). From the total number of patients screened, low-grade lesions accounted for 0.97% while high-grade lesions constituted 0.35%. Thermoablation (68.4%) and cryotherapy (31.6%) were the most commonly used treatment methods. The success rate at 6 months post-treatment was 85.1%. However, by the 12-month follow-up, 139 patients, or 73.2%, had been lost to follow-up. **Conclusion**: This experience emphasises the importance of commu-

nity awareness and the integration of screening into primary healthcare to prevent cervical cancer through the effective management of pre-invasive lesions. However, long-term follow-up remains a significant challenge.

Keywords

Pre-Invasive Lesions, Cervix, Treatment, Cameroon

1. Introduction

Cervical cancer is a significant public health issue in Cameroon [1]. According to GLOBOCAN data from 2022, cervical cancer ranks as the second most common cancer among women in terms of both incidence and mortality, with 2525 new cases and 1837 deaths reported [1]. This type of cancer is a malignant tumor that affects the cells of the cervix [2]. It often begins with a benign epithelial abnormality that is asymptomatic but has the potential to develop into invasive cancer if left untreated [3]. Cervical cancer generally starts with precancerous lesions, also known as cervical dysplasia. Advances in medicine have made it possible to prevent, detect, and effectively treat cervical cancer, particularly through vaccination against the human papillomavirus (HPV), regular screenings, and prompt treatment of precancerous lesions [4].

The purpose of this study was to optimise the management of precancerous cervical lesions and to improve patient adherence to post-treatment follow-up, thereby reducing the risk of progression to invasive cancer. This work aimed to describe the experience of treating pre-invasive cervical lesions and to evaluate clinical outcomes and treatment success rates.

2. Methodology

2.1 Type and Framework of the Study

We conducted a descriptive and retrospective study during the period from January 1, 2019 to October 31, 2024, at the Yaounde University Teaching Hospital (YUTH), Cameroon.

2.2. Data Collection Method

Data was collected after obtaining informed consent, via the records of patients admitted for cervical cancer screening at the said hospital. Treatment of mild to severe dysplastic lesions was performed either by cryotherapy, thermoablation, or conization. Post-treatment follow-up was assessed at 6 weeks, then 6 months, and finally at 1 year. In some cases, a "Test and Treat" approach was employed, whereby eligible lesions were treated immediately during the same visit, following a prior biopsy, based on a positive visual inspection result, without waiting for biopsy confirmation [4].

3. Results

Overall, we screened 5963 patients over the six years. The average age of the patients was 40 years, with a minimum age of 21 and a maximum of 81 years.

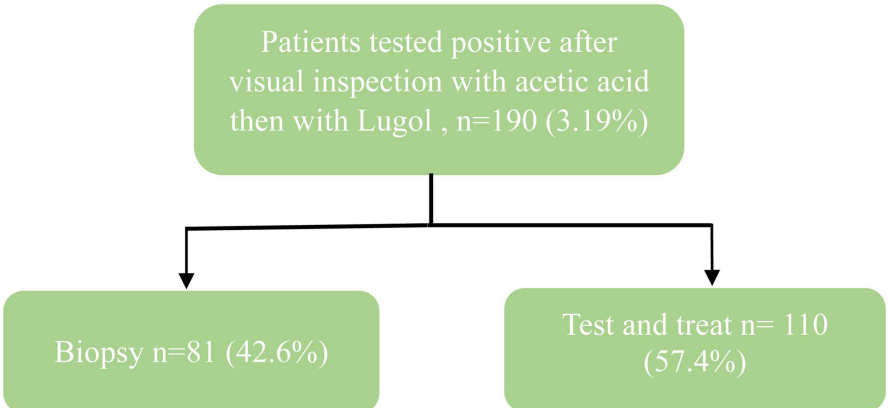

Figure 1. Flow chart of screened patients.

Of the patients screened during the study, 190 (3.19%) tested positive after visual inspection with acetic acid and then Lugol's swab. Of those who tested positive, 110 (57.4%) underwent the "Test and Treat" approach, while 81 (42.6%) underwent a biopsy. From this biopsy, 79 patients (95.2%) were confirmed to have dysplasia. Of the 79 with dysplasia, 58 (73.4%) suffered from mild dysplasia and 21 (26.6%) from severe dysplasia (**Figure 1**). Among those diagnosed with dysplasia, some had associated pathologies.

Table 1. Pathologies associated with dysplasia.

Associated pathologies	Effective	Percentage
Condylomas	21	21.4%
Cervicitis	19	18.6%
Papilloma	1	0.52%
Inflammatory pseudotumour	1	0.52%
Mullerian fibroadenoma	1	0.52%
Acanthotic dystrophy	1	0.52%

Condylomas and cervicitis represent 21.4% and 18.6% of cases, respectively; the other reported lesions: papilloma, inflammatory pseudotumour, Mullerian fibroadenoma, and acanthotic dystrophy represent only 0.52% each (**Table 1**).

Regarding treatments, thermoablation represented 68.4% of the treatments performed; cryotherapy, 31.6% of the treatments and 3.2% for conization. Patient follow-up was carried out after 6 weeks, 6 months and after 12 months (**Figure 2**).

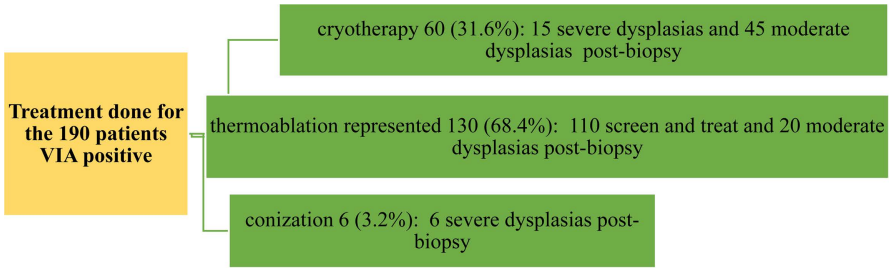

Figure 2. Distribution of treatments for dysplastic lesions.

Patient follow-up was carried out after 6 weeks, 6 months and after 12 months. This follow-up shows that, at 6 weeks, check-ups were performed on 168 patients, representing 93.5%, indicating very good adherence to initial follow-up. Positive results were observed in 11 (6.5%) patients, and 22 patients (11.6%) of the initial population) were lost to follow-up. At 6 months, check-ups were performed on 101 patients (85.1%), positive results were observed in 15 patients (14.9%), which marks a proportional increase in positive cases compared to the check-ups performed. And 89 patients, or 46.8% of the initial population, were lost to follow-up. At 12 months, check-ups were performed on 51 patients, positive results were observed in 3 patients, while 139 patients or 73.2% were lost to follow-up, indicating a very high loss to long-term follow-up (Figure 3).

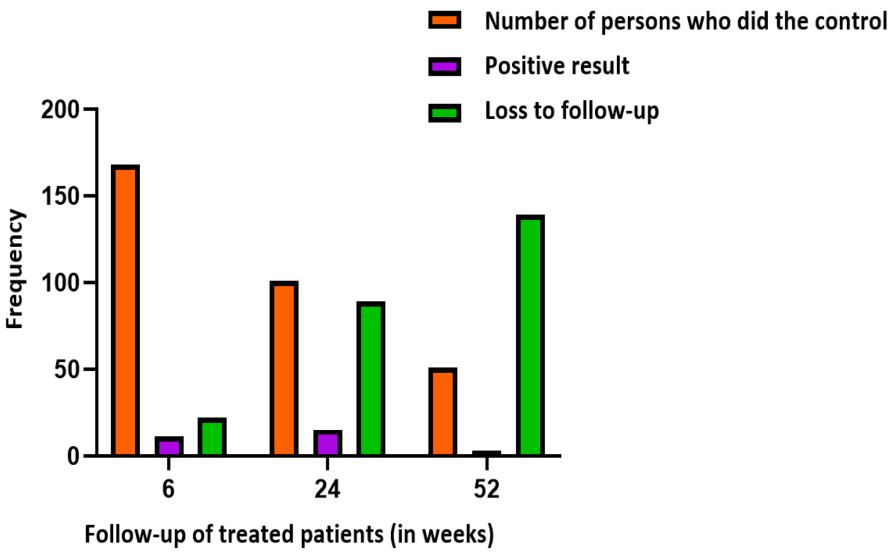

Figure 3. Evolution of patients after treatment.

4. Discussion

Condylomas (21.4%) and cervicitis (18.6%) together account for a significant proportion of cases. Condylomas are typically linked to infection with the human papillomavirus (HPV). On the other hand, cervicitis refers to the inflammation of the cervix, which can stem from various infectious sources, including viral or bacterial origins. The high incidence of these conditions in the group indicates that infections and the inflammatory process play a major role in the cervical pathol-

ogies observed in this sample [5] [6]. Associated pathologies represent only a very small fraction, accounting for 0.52% each. Although these entities are individually rare, they must be considered in the overall assessment of patients, as they could raise diagnostic questions or require specific follow-ups in certain cases.

In the department, cryotherapy, was exclusively performed after confirmation by biopsy of moderate to severe dysplasia, reflecting its established use for histologically confirmed lesions [4]. Conisation was used exclusively for severe dysplasia, also in a post-biopsy context. This relates to the "screen, triage and treat approach" described by WHO, the decision to treat is based on a positive primary screening test followed by a positive second test [4]. It should be noted that all patients who ultimately underwent conisation had initially received thermal ablation as part of a "screen and treat" approach, with the biopsy being performed on the same day as the screening after a positive VIA test and just before the thermal ablation.

In contrast, thermal ablation, was mainly used for moderate dysplasia, either as part of a "screen and treat" approach or after a biopsy in a "screen, triage and treat approach" [4]. This reflects its growing role as a minimally invasive option in the management of cervical dysplasia, but may also revealed a form of hesitation of practitioners to perform it in cases of severe dysplasia confirmed by histology.

The 6-week follow-up shows excellent participation at 93.5%, with a very low proportion of positive results at 6.5%. However, follow-up deteriorates over time, especially at 6 months and 12 months, where the proportion of patients lost to follow-up increases (46.8% at 6 months and 73.2% at 12 months). This decline may bias the assessment of long-term treatment efficacy, as absent patients could have different outcomes. This insufficient long-term adherence may be due to several socioeconomic and logistical factors, including financial constraints, lack of health education and limited access to transportation. In addition, inadequate communication from healthcare providers may lead to patients not returning for follow-up care.

The proportion of positive results appears to fluctuate. An increase to 14.9% at 6 months may reflect a resurgence of the pathology or late detection of residual lesions. At 12 months, although the percentage among those still being monitored is low at 5.9%, it is challenging to draw definitive conclusions due to the high rate of loss to follow-up. High attrition in long-term follow-up may be linked to several barriers, including socioeconomic difficulties, lack of awareness about the importance of follow-up, transportation costs, or competing health priorities [7] [8]. The contrast between the excellent initial adherence and the high long-term loss underlines the major challenge of retaining patients for prolonged follow-up [7] [9]. Understanding these factors is essential for designing more patient-centered retention strategies in future programs.

In our study, 51 patients completed the 12-month follow-up. Among them,

94.1% showed complete remission. The main treatment method used was thermoablation followed by cryotherapy. This favourable early evolution refers to negative control findings and the absence of new or persistent lesions at each follow-up visit. These results are comparable to those of other studies conducted in similar contexts, such as that of Noa et al. in 2015, where 95% of pre-cancerous lesions treated by cryotherapy had resolved at 6 months and 12 months [10].

The limitations of this study rest on its retrospective nature, which resulted in missing data. Also, there was a low participation rate for follow-up.

5. Conclusion

This experience highlights the importance of community awareness and integration of screening into primary health care to prevent cervical cancer through efficient management of pre-invasive lesions. However, long-term follow-up remains a real challenge.

Conflicts of Interest

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

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