Research Article ISSN 2639-8478

Cancer Science & Research

Precancerous Lesions of Cervix in The Lekoumou and Niari Departments (Congo Brazzaville)

Ngatali Christian F.S[1*]., Bolenga Liboko A.F[2]., Mabiala Y[2], Doukaga Moussavou R.A[3]., Moukassa D[4]., and Nkoua Mbon J.B[2]

[1]*Department of oncology and Internal Medicine, Loandjili General Hospital (Congo).*

[2]*Department of oncology, CHU Brazzaville (Congo).*

[3]*Department of gynecology, Tié-Tié Basic Hospital (Congo).*

[4]*Pathology anatomy laboratory, Loandjili General Hospital,Pointe Noire (Congo).*

[*]Correspondence:
Dr. Ngatali Christian, Faculty of Health Sciences Brazzaville and Loandjili General Hospital.

Received: 14 Dec 2021; **Accepted:** 06 Jan 2022; **Published:** 10 Jan 2022

Citation: Christian NFS, Liboko BAF, Mabiala Y, et al. Precancerous Lesions of Cervix in The Lekoumou and Niari Departments (Congo Brazzaville). Cancer Sci Res. 2022; 5(1): 1-5.

ABSTRACT

Objective: *To determine the prevalence of precancerous lesions in the Lekoumou and Niari departments.*

Patients and Methods: *this was a descriptive and cross-sectional study over a period of 7 months from January to July 2020 in the department of of lekoumou, The analyzes were made in the Laboratory of Medical and Morphological Analysis of the General Hospital of Loandjili. Our study involved a population of 100 women ranging in age from 16 to 73 years old. All of these women voluntarily benefited from a cervico-uterine sample. The cytological study was based on the international classification of BETHESDA 2001, taking into account the quality of the sample and the cell morphology. The variables studied were: age, marital status, level of education, cytology. Bivariate analyze was done between age and cytology. All the results of this study were statistically analyzed from the Chi-square test or Fisher's exact test using Epi-InfoTM software version 7.1.1.14, USA (http://www.epiinfo.com).*

Results: *The mean age of the patients was 34.6 ± 11.9 with extremes ranging from 16 to 73 years. The most represented age groups were 20-29 years old (31%) and 30-39 years old (29%). Our study population was predominantly college, accounting for 53% of cases. The proportion of uneducated women represented 11% of our study population. Almost ¾ of our study population were married women (74%). Singles represented only 22% of the study population. More than half of our study population, 58%, had normal cytology. Benign and reactive cell changes were diagnosed in 20% of cases. Low-grade and high-grade precancerous lesions were observed in 8% and 12% of cases, respectively. High-grade intraepithelial lesions were more represented in patients aged between 27 and 36 years 50%, high-grade lesions represented in 47% of cases. there were no statistically significant result between age and cytology.*

Conclusion: *prevalence of precancerous lesions is relatively high It is well known that intraepithelial neoplasia precedes invasive carcinoma after a period of about 10 years. knowledge of these precancerous lesions is necessary for optimal prevention of cervical cancer.*

Keywords
Prevalence, Precancerous lesions, Cervix, Lekoumou, Niari, Congo Brazzaville.

Introduction

According to estimates from the World Health Organization (WHO) in 2019, cancer is the first or second leading cause of death before the age of 70 years in 112 of 183 countries and ranks third or fourth in a further 23 countries [1]. Cervical cancer with an estimated 570,000 cases and 311,000 deaths in 2018 worldwide, this disease ranks as the fourth most frequently diagnosed cancer and the fourth leading cause of cancer death in women [2].

The highest regional incidence and mortality rates are seen in Africa, with rates elevated in Southern Africa (eg, Swaziland, with the highest incidence rate), Eastern Africa (Malawi, with the highest mortality rate; and Zimbabwe), and Western Africa (Guinea , Burkina Faso, and Mali) [2].

The incidence of cervical cancer continues to decrease, unlike in developing countries, particularly in sub-Saharan Africa where the incidence is increasing exponentially mainly due to the poor organization of screening and prevention policies. Human papillomavirus (HPV) is the virtually necessary (but not sufficient) cause of cervical cancer [3]. In Congo, cervical cancer is the second most common cancer in women in terms of incidence and the first cancer in terms of mortality [1].

Cervical intraepithelial neoplasia (CIN) is a spectrum of intra-epithelial cellular abnormality suggestive of neoplasia. The process of dysplasia of cervical cells means abnormal maturation [4]. According to Bethesda system 2014, CIN is classified into three grades which include mild, moderate and severe degrees (CIN 1, 2 and 3 respectively). The main risk factors for cervical dysplasia include HPV infection with serotypes 16, 18, 31, 33, 35 [5]. Other risk factors include early sexual activity, smoking, high parity and immunosuppression. Screening of pre-invasive disease of the Cervix aims to prevent morbidity and mortality from cervical cancer. Screening starts at the age of 21 and continues till the age of 65years. The main screening methods of cervical cancer are: Cervical cytological screening (Pap smear); Visual inspection with acetic acid (VIA); Visual inspection with Lugol's iodine (VILI); Colposcopy; and Cervical biopsies. The conventional method (Pap smear): The Pap test was developed by Dr. George Papanicolaou in 1941. Cervical screening always requires an endocervical and an ectocervical sample, using wooden or plastic spatulas : Ayre and extended tip or Aylesbury [6].

Cervical cancer is preventable by cervical smear screening for intraepithelial neoplasia [7]. It is well known that intraepithelial neoplasia precedes invasive carcinoma after a period of about 10 years [8]. This tissue damage is often studie d by conventional cervical smears [9-13]. Other methods are used as liquid-medium smears [10]. No study in this department has been carried out to our knowledge. This is how we set ourselves the objective of determining the prevalence of precancerous lesions in the Lekoumou and Niari departments.

Patients and Methods

We conducted a descriptive and cross-sectional study over a period of 7 months from January to July 2015 in the Lekoumou department.

The analyzes were carried out in the Laboratory of Medical and Morphological Analysis of the General Hospital of Loandjili. Our study involved a population of 100 women ranging in age from 16 to 73 years old. All of these women voluntarily benefited from a cervico-uterine sample.

Sexually active patients aged 16 and over who have given informed consent for adults and parental consent for minors were included.

We did not include patients who had undergone total hysterectomy as well as those who were menstruating. We carried out a simple random selection to constitute the size of our sample

Method of Sampling

Each patient was placed in a gynecological position. After placing a sterile disposable speculum, two samples were taken.

The sample was taken with an Ayre spatula from the exo and endocervix. The collected cells were spread evenly and in a thin layer on a glass slide, then fixed with a cytological fixative spray.

Cytological Analysis

The coloring was done using the Papanicolaou technique.
The cytological study was based on the international classification of BETHESDA 2001, taking into account the quality of the sample and the cell morphology.

The results of the cytological reading for the detection of precancerous lesions were classified into: Normal smear, Reactional begign cellular modification, ASCUS / ASGUS, LGSIL, HGSIL.

The Bethesda System the standard universal system used for interpretation of Pap smear results. Types of results using Betheseda system include: Negative for intraepithelial lesion or malignant atypical squamous cells. 1) Atypical squamous cells of undetermined significance (ASC-US); 2) Atypical squamous cells-cannot exclude HSIL (ASC-H); 3) Low grade squamous intraepithelial lesion (LGSIL or LSIL); 4) High grade squamous intraepithelial lesion (HGSIL or HSIL); 5) Squamous cell carcinoma; 6) Atypical Glandular Cells not otherwise specified (AGC-NOS); 7) Atypical Glandular Cells, suspicious for AIS or cancer (AGC-neoplastic); 8) Adenocarcinoma in situ (AIS); 9) Adenocarcinoma. Low grade lesions correspond to CIN1 and high grade lesions correspond to CIN 2 and 3.

The variables studied were: age, marital status, level of education, cytology. Bivariate analysis was done between cytology and age.

Statistical analysis

All the results of this study were statistically analyzed from the Chi-square test or Fisher's exact test using Epi-InfoTM software version 7.1.1.14, USA (http://www.epiinfo.com). Qualitative data were described using number and percent. Quantitative data were described using range (minimum and maximum), mean, standard deviation and median. Significance of the obtained results was judged at the 5% level.

For all tests, the association between two variables was considered statistically significant when $p < 0.05$.

Results

The mean age of the patients was 34.6 ± 11.9 with extremes ranging from 16 to 73 years. The most represented age groups were 20-29 years old (31%) and 30-39 years old (29%) table 1. Our study population was predominantly college, accounting for 53% of cases, the proportion of uneducated women represented 11% of cases figure 1. Almost ¾ of our study population were married women (74%), Singles represented only 22% of the study population and 4% were widow figure 2. More than half of our study population, 58%, had normal cytology. Benign and reactive cell changes were diagnosed in 20% of cases, Low-grade and high-grade precancerous lesions were observed in 8% and 12% of cases, respectively table 2. High-grade intraepithelial lesions were more represented in patients aged between 27 and 36 years 50%, high-grade lesions represented in 47% of cases. LGSIL were most prevalent in patients aged 27 to 36 at 50%. HGSIL were 53% represented in patients over 46 years of age and 33% in patients aged 27 to 36 years, there were no statistically significant result between age and cytology (Figure 3).

Table 1: Distribution of Patients according to Age.

Age	Number	Percentage
<20	8	8%
20-29	31	31%
30-39	29	29%
40-49	20	20%
≥ 50	12	12%
Total	100	100%

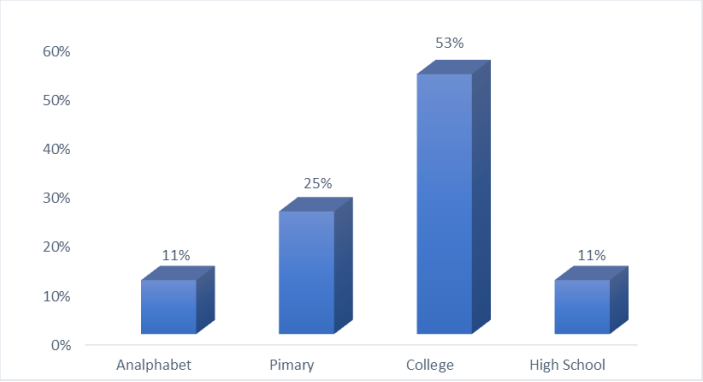

Figure 1: Distribution of Patients according to Level of Instruction.

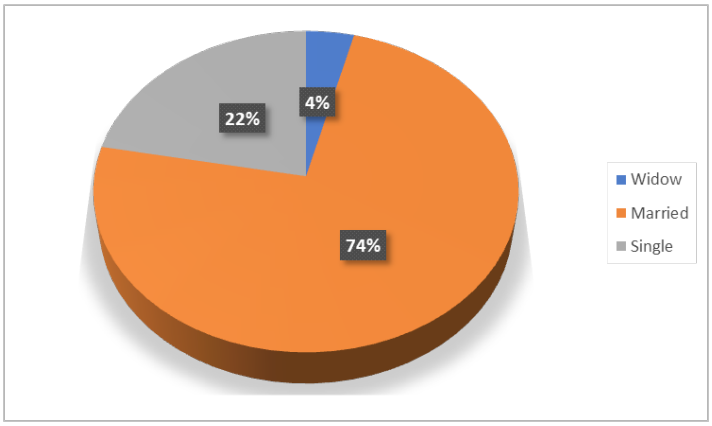

Figure 2: Distribution of patients according to marital Status.

Table 2: Distribution of Patients according to Cytology.

Cytology	Number	Percentage
Normal	57	57%
MCBR	21	21%
ASCUS	1	1%
LGSIL	7	7%
HGSIL	14	14%
Total	100	100%

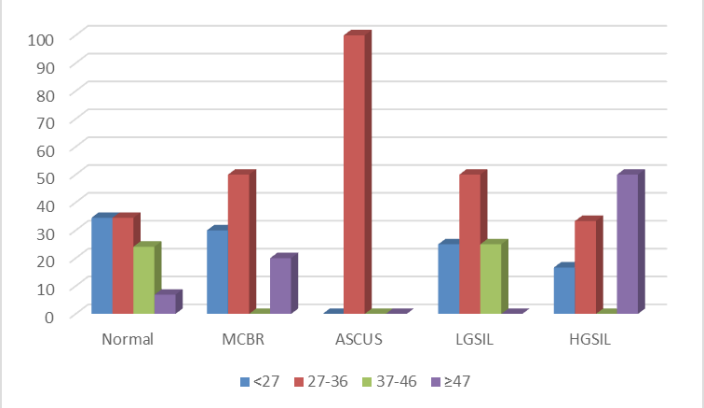

Figure 3: Distribution of patients according to age and cytology. P>5% non significant result.

Discussion

Analysis of the methodology

Type and period of the study: The descriptive and transversal nature of this study ensures an optimal quality of the results, because the collection of information was contemporaneous with the events described. The homogeneity of our study sample allowed us to make a simple analysis of the results obtained, representative of the general population of the study area.

Study population: The selection criteria were established in order to avoid bias in the interpretation of the results. We performed cervico-uterine smears (CDU) in women aged 16 years or older. For adolescents aged 16 to 18, informed consent from a parent or guardian was required to be part of the study, while those over 18 had to consent themselves. Quite similar criteria were also used by

Xavier Castellsagué in 2002 [14], in a study on the detection of the HPV genotype in rural areas in Mozambique.

The mean age of women in our study population was lower than that observed in the Louie study population in 2009 [15] which was estimated to be 33.9 years.

Sampling strategy: The constitution of the sample consisted in making a simple random selection of women from the entire rural area of the Kouilou department, representing our sampling territory. The purpose of this random selection was to obtain a number of cases representative of the general population, in order to ensure statistical significance of the results. In total, we retained 100 cases for the performance of our cytological studies. Elsewhere, but close to us in Kinshasa, in the Democratic Republic of Congo (DRC), Ali-Risasi in 2008 [16] using the same methodology, had recruited 272 cases to carry out this type of molecular study of HPV identification in the area. urban.

Analysis of the cytological diagnosis

According to our study, 78% of women had borderline-normal cytology (57% had normal cytology and 21% had benign and reactive cell changes). Low-grade and high-grade precancerous lesions were observed in 7% and 14%, respectively, for a total of 21%.

These results agree with those of Womack et al in 2000 in Zimbabwe who found a percentage of 73.8% of smears at the limit of normal; precancerous lesions represented 26.2% [18]. Ali-Risasi and colleagues in 2008 in the Democratic Republic of Congo who found 21.3% of precancerous lesions [16]. Didelot-Rousseau and colleagues in Burkina-Faso in 2006 reported 24% of precancerous lesions [18].

In Congo, several studies on cervico-uterine lesions have been carried out, including those by N'Golet et al in 2004 [19], Moukassa et al [20] in 2013, Boumba et al in 2015 [21].

The first concerned cervical intraepithelial neoplasms in Brazzaville with a percentage of 3.57% CIN.

The second focused on the comparative study of risk factors for precancerous lesions of the cervix in two Congolese health departments and found a percentage.

Conclusion

Precancerous lesions of the cervix are represented by high-grade and low-grade lesions in our resource-limited setting. Their prevalence is relatively high in the under 36 age groups. It is well known that intraepithelial neoplasia precedes invasive carcinoma after a period of about 10 years. knowledge of these precancerous lesions is necessary for optimal prevention of cervical cancer.

References

1. Sung H, Ferlay J, Siegel RL, et al. Global Cancer Statistics 2020 GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. CA Cancer J Clin. 2021; 71: 209-249.
2. Bray F, Ferlay J, Soerjomataram I, et al. Global Cancer Statistics GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. CA A Cancer Journal for Clinicians. 2018; 68: 394-424.
3. Monsonego J. Papillomavirus et cancer du col de l'utérus. Médecine/sciences. 1996; 12: 733.
4. Tainio K, Athanasiou A, Tikkinen Kari AO, et al. Clinical Course of Untreated Cervical Intraepithelial Neoplasia Grade 2 under Active Surveillance Systematic Review and Meta-Analysis. BMJ. 2018; 360: 499.
5. https://www.ncbi.nlm.nih.gov/books/NBK304348
6. Schneider V. Criticism of the Pap Smear as a Diagnostic Tool in Cervical Cancer Screening. Acta Cytologica. 2017; 61: 338-344.
7. Mpiga É, Ivanga M, Koumakpayi IH, et al. Intérêt de l'inspection visuelle à l'acide acétique et au soluté de Lugol avec colposcope dans le dépistage des lésions du col utérin au Gabon. Pan Afr Med J. 2015; 22.
8. Bergeron C, Cartier I, Guldner L, et al. Lésions précancéreuses et cancers du col de l'utérus diagnostiqués par le frottis cervical Ile-de-France enquête Crisap 2002. Bull Epidemiol Hebd. 2005; 2: 5-6.
9. Dagneaux I. Cytologie cervicale Comment améliorer la détection de cellules anormales et la qualité des frottis. Apport des techniques en milieu liquide et couche mince implications en médecine générale. Louvain Med. 2003; 122: 193-202.
10. Dagneaux I. Cytologie cervicale en milieu liquide intérêt en médecine générale. La revue de la médecine générale 2001. 2001; 185: 304-379.
11. Schwartz D. Dépistage cytologique du cancer du col de l'utérus par prélèvement en milieu liquide PhD Thesis. University of Geneva. 2002.
12. Bergeron C. Frottis conventionnel ou milieu liquide in Bernard Blanc. Le dépistage du cancer du col de l'utérus. 2005; 103-115.
13. Zeggai M, Sebiane S. Gestion des FCV Frottis Cervicaux Vaginaux de CHU Tlemcen PhD Thesis. 2014.
14. Castellsague X, Bosch FX, Munoz N, et al. Male circumcision penile human papillomavirus infection and cervical cancer in female partners. New England Journal of Medicine. 2002; 346: 1105-1112.
15. Louie KS, de Sanjose S, Mayaud P. Epidemiologie and prevention of human papillomavirus and cervical cancer in sub-saharan Africa a comprehensive review. Tropical medicine and international health. 2009; 10: 1287-1302.
16. Ali-Risasi C, Praet M, Van Renterghem L, et al. Profil génotypique du papillomavirus humain rencontré dans l'environnement de Kinshasa Intérêt vaccinal. Médecine tropicale. 2008; 68: 617-620.
17. Womack SD, Gynaecologist MC, Gynaecologist PDB. Evaluation of a human papillomavirus assay in cervical screening in Zimbabwe. 2000; 107: 33-38.

18. Didelot-Rousseau MN, Nagot N, Costes-Martineau V, et al. Human papillomavirus genotype distribution and cervical squamous intraepithelial lesions among high-risk women with and without HIV-1 infection in Burkina Faso. Vaccine. 2006; 355-362.
19. N'Golet A, Koutoupot BR, Lubuélé L, et al. Les néoplasies cervicales intra épithéliales CIN à Brazzaville Congo. Analyse de situation. Annales de Pathologie. 2004; 24: 324-328.
20. Moukassa D, Bouebazebi Biantona L, Ebatetou-Ataboho E, et al. Etude comparée des facteurs de risque des lésions précancéreuses du col de l'utérus dans deux départements sanitaires congolais. Médecine d'Afrique noire. 2013; 60: 351-357.
21. Boumba A, Mouallif M, Hilali L, et al. Prevalence of Human Papillomavirus infection among Congolese Women with Normal Cervical Cytology. International Journal of Science and Research. 2015; 4: 521-526.