

Cervical Cancer: Epidemiological Aspects, Management and Prognosis in the Department of Gynaecology and Obstetrics at Donka National Hospital, Conakry Teaching Hospital

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How to cite this paper: Diallo, M.H., Sow, A.II., Magassouba, M., Diallo, M.W., Leno, D.W.A., Diallo, A., Balde, I.S., Sy, T. and Keita, N. (2026) Cervical Cancer: Epidemiological Aspects, Management and Prognosis in the Department of Gynaecology and Obstetrics at Donka National Hospital, Conakry Teaching Hospital. *Open Journal of Obstetrics and Gynecology*, 16, 967-976. <https://doi.org/10.4236/ojog.2026.166089>

Received: March 24, 2026

Accepted: June 27, 2026

Published: June 30, 2026

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Abstract

Introduction: The objectives of this study were to describe the epidemiological aspects, the management and the prognosis of cervical cancer. **Methodology:** This was a retrospective descriptive study covering a five-year period from January 1, 2019 to December 31, 2023, focusing on cases of cervical cancer managed in the department with histological evidence. **Results:** The incidence of cervical cancer was 19.07%. The majority of patients were women with no formal education (69.3%), housewives (58.3%), married (98.3%), multiparous (77.7%) and with a history of HPV infection (74.7%). Metrorrhagia (96.7%), pelvic pain (89.0%) and hydrorrhea (67.3%) were the most frequently recorded reasons for consultation. Squamous cell carcinoma was the most common histological type (87.7%). In the majority of cases, the diagnosis was made at FIGO stages II (33.3%) and III (31.0%). Hysterectomy with pelvic dissection (69.3%) was the most commonly performed surgical procedure. More than 7 in 10 patients (74.1%) had received radiotherapy. Adjuvant chemotherapy was administered in 47.0% of cases. One-year survival was 95.0% and five-year survival was 19.3%. **Conclusion:** Cervical cancer remains common in this department and it is often diagnosed at a late stage, resulting in a poor prognosis. Early screening, prompt management and improved access to radiotherapy could improve patient prognosis.

Keywords

Cervical Cancer, Epidemiology, Management, Prognosis, Donka

1. Introduction

Cervical cancer (CC) is an ever-growing public health concern; it is one of the major causes of cancer-related deaths among women worldwide [1]. Globally, cervical cancer is the second most common cancer among women of reproductive age, in terms of both incidence and mortality, and it represents a particularly heavy burden in many countries with the lowest Human Development Index (HDI) [1] [2]. According to the World Health Organization (WHO), the incidence of cervical cancer stands at 500,000 new cases per year worldwide, with 350,000 deaths annually, nearly 95% of which occur in developing countries [3]. In Africa, cervical cancer ranks second in terms of incidence and mortality, with 117,316 new cases and 76,745 deaths in 2020 [2] [4]. In Guinea, cervical cancer ranks first among gynecological and breast cancers. The lack of adequate vaccination, screening and treatment strategies and programs explains the high prevalence, the diagnosis at advanced stages of the disease and the high mortality rate from cervical cancer in our country. The objectives of this study were to describe the epidemiological aspects, the management and the prognosis of cervical cancer.

2. Methodology

This was a retrospective descriptive study covering a five-year period from January 1, 2019 to December 31, 2023 conducted in the Department of Gynaecology and Obstetrics at Donka National Hospital in Conakry, focusing on the complete medical records of patients treated in the department for cervical cancer during the study period.

Incomplete records (without histological evidence) of patients treated for cervical cancer were not included in this study.

2.1. Sampling

We carried out an exhaustive recruitment of all patient records meeting the inclusion criteria defined above.

2.2. Variables

These were qualitative and quantitative and they were categorized according to the epidemiological, clinical, paraclinical, therapeutic and prognostic aspects. The exposure variables were mentioned in the records and this information was confirmed in the record by clinical examination and laboratory analyses.

2.3. Data Collection

Data were collected through a review of the medical records of patients with cervical cancer.

2.4. Data Analysis

The data were analyzed using SPSS 26.0 software, which enabled the calculation of proportions for qualitative variables, and the mean, standard deviation and extremes for quantitative variables. The survival rate was calculated using the

Kaplan-Meier model.

2.5. Considerations

After obtaining the authorization to collect data from the head of the department (ethics committee of the faculty of health sciences and techniques), the information was gathered whilst respecting anonymity and confidentiality.

3. Results

3.1. Frequency

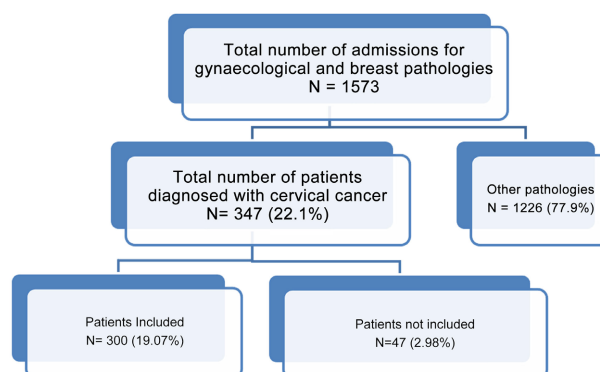


Figure 1. Flow chart of patient inclusion.

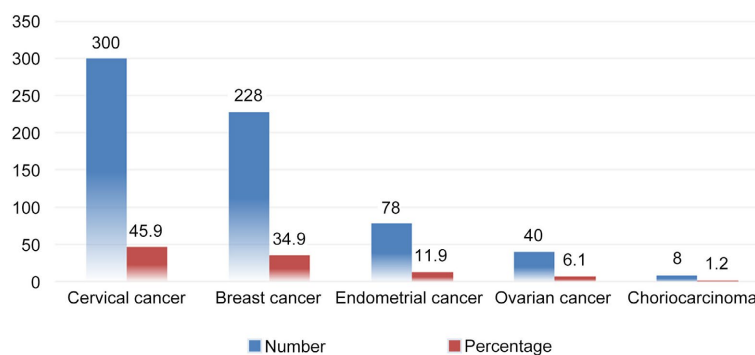


Figure 2. Prevalence of cervical cancer compared with other gynecological and breast cancers.

3.2. Epidemiological Characteristics

Table 1. Epidemiological characteristics.

Variables	Sample size (N = 300)	Percentage
Age groups (years)		
≤35	35	11.7
36 - 45	80	26.6
46 - 55	77	25.7
56 - 65	65	21.7
≥66	43	14.3
Mean age: 50.88 ± 12.9 years	Extremes: 26 and 90	

Continued

Level of education		
Not educated	208	69.3
Primary education	23	7.7
Secondary education	58	19.3
University education	11	3.7
Occupation		
Housewives	175	58.3
Self-employed	77	25.7
Secondary.school/university students	2	0.7
Civil servants	46	15.3
Marital status		
Single	5	1.7
Married	295	98.3
Parity		
Nulliparas	10	3.3
Primiparas	14	4.7
Pauciparas	43	14.3
Multiparas	233	77.7
Risk factors		
HPV infection	224	74.7
Early sexual activity	62	20.7
Multiple sexual partners	17	5.7
Multiparity	233	77.7
Low socioeconomic status	58	19.3
Tobacco	6	2.0
HIV	16	5.3

3.3. Clinical Characteristics

Text 1. Reasons for consultation

Metrorrhagia (96.7%), pelvic pain (89.0%), hydorrhea (67.3%) and post-coital bleeding (39.0%) were the most common reasons for consultation.

Table 2. Distribution of patients according to histological types.

Histological types	Number	Percentage
Squamous cell carcinomas	263	87.7
Keratinizing	218	72.3
Small cell non-keratinizing, carcinoma	13	4.3
Large-cell non-keratinizing carcinoma	32	10.7
Adenocarcinoma	20	6.7
Adenosquamous carcinoma	4	1.3
Undifferentiated carcinoma	13	4.3
Total	300	100.0

Text 2. Stages according to FIGO classification

The majority of patients were diagnosed at stage II (33.3%), stage III (31.0%) and stage I of the disease (28.3%), versus 7.3% at stage IV.

3.4. Management

Text 3. Surgical management

The surgical treatment was performed in 292 patients, or 97.3%. This was broken down as follows: 208 cases of extended colpohysterectomy with lymphadenectomy (71.7%), 54 cases of extended colpohysterectomy with lymphadenectomy and lymph node dissection (18.5%) and 30 cases of extrafascial total hysterectomy (10.3%).

Text 4. Radiotherapy

Radiotherapy was indicated in 251 patients, of whom 103 received it (41.0%). It was adjuvant in 48 patients (46.6%), neoadjuvant in 26 (25.2%) and concurrent in 28.2% of cases.

Text 5. Chemotherapy

Chemotherapy was administered to 256 patients (85.3%).

3.5. Prognosis

Text 6. Prognosis

We identified 6 cases of recurrence (2.0%), occurring in the pelvis (3 cases), vagina (2 cases) and cervix (1 case). The mean time to onset was 12 months, with extremes ranging from 6 to 28 months.

3.6. Survival Function

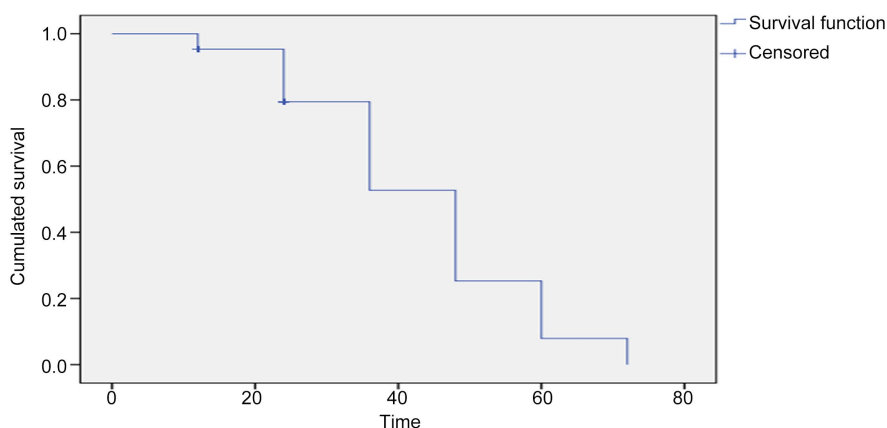


Figure 3. Overall survival of patients according to the Kaplan-Meier model.

Text 7. Cause of death

The metastatic stage of the cancer was the most common cause of death (50.0%), followed by the hypovolemic shock (40.0%) and the septic shock (10.0%).

The one-year survival was 95.0% and that of five-year survival was 19.3%, versus 5.0% of patients lost to follow-up.

4. Discussion

4.1. Frequency

We conducted a five-year retrospective and descriptive study to describe the epidemiological aspects, the management and the prognosis of patients treated for cervical cancer in the Department of Obstetrics and Gynaecology at Donka National Hospital.

This study reveals a frequency of cervical cancer of 19.07% among all gynaecological and breast pathologies recorded during the study period (**Figure 1**). A similar prevalence to ours was reported by Hasiniatsy NRE *et al.*, namely 18.67% [5]. A prevalence of cervical cancer of 22% was recorded in the study by Kajimina Katumbayi JC *et al.* [6].

This could be explained, on the one hand, by the high incidence of cervical cancer in our society and, on the other hand, by the fact that our study site is the referral centre for the screening and care management of this cancer in our country.

This study shows that cervical cancer ranks first among gynaecological and breast cancers in terms of incidence (**Figure 2**). Similar findings were reported by certain authors in Benin in 2017 and 2021 and in Cameroon in 2014, in different proportions [7]-[9]. In contrast, cervical cancer was ranked second among gynaecological and breast cancers in the study by Hounkponou NFM *et al.* [10] between 2005 and 2015.

4.2. Epidemiological Characteristics

The mean age of patients was 50.88 ± 12.9 years, with extremes of 26 and 90 years (**Table 1**). Age averages similar to ours were found in certain studies (52.82 ± 12.36 years and 56.6 years) [11] [12]. This could be explained by the development of cervical cancer at a relatively young age in Africa compared to developed countries. The occurrence of cervical cancer at an earlier age appears to be linked to the resurgence of risk factors such as poor socio-economic conditions, early sexual activity, multiple sexual partners (exposing women to human papillomavirus (HPV)), sexually transmitted infections and, finally, multiparity [13]. Some authors claim that cervical cancer in young women is explained by the fact that HIV infection in young people would be associated with a prevalence of severe cervical dysplasia and a more severe progression of lesions as the immune deficiency is deeper [14]. With regard to the educational level, more than 6 out of 10 patients were uneducated (**Table 1**). Similar observations were reported by Hounkponou NFM *et al.* [7] and Gueye L. *et al.* [11], with 62.1% and 87.5% of patients, respectively, having no formal education. The low level of education among women in our country could explain the delay in seeking medical advice and the diagnosis at advanced stages of the disease. Multiparas women were the most numerous in our series (77.7%) (**Table 1**); a similar finding was reported in the study by N'guessan K *et al.*, at 73.1% [15]. It appears that in Africa, multiparity is a genuine risk factor for cervical cancer, as the repeated trauma caused by pregnancies leads

to changes in the architecture of the cervix, which progress towards a dysplastic state [15].

The commonest risk factors for cervical cancer were multiparity (77.7%), HPV infection (74.7%), a history of STIs (66.3%), early sexual intercourse (20.7%) and low socioeconomic status (19.3%) (**Table 1**). In the study by N'guessan K *et al.* [15], the most frequently encountered risk factors were early sexual intercourse (77.2%), multiple sexual partners (73.7%) and STIs (70.2%). Pooled data from eight case-control studies on invasive cervical cancer and two studies on carcinoma in situ (CIS) from four continents appear to show that, compared with women who have never had children, those who have had three or four are 2.6 times more likely to develop cervical cancer; those who had seven or more had a 3.8-fold higher risk [16]. Other studies corroborate this established positive relationship between the number of children and cervical cancer [17] [18].

4.3. Clinical Characteristics

In this series, it emerged that metrorrhagia, pelvic pain and hydrorrhagia were the main reasons for consultation (text 1). Such results corroborate those of certain authors, in varying proportions, who reported metrorrhagia (71.87%), abdominal pain (26.0%) and hydrorrhagia (9.4%) as the most frequent reasons for consultation [11] [19] [20]. Such findings are also reported in some studies as the main reasons for consultation among patients with cervical cancer [21].

The histological characteristics of cervical tumors have undeniable prognostic value, which continues to evolve regularly alongside therapeutic advances, thereby motivating their precise determination [9].

As frequently described in the literature, in our sample squamous cell carcinoma (87.7%) was the commonest histological type, followed by adenocarcinoma (6.7%) (**Table 2**). Such results are comparable to those of Mapoko BSE *et al.*, who found a predominance of squamous cell carcinoma (85.6%), followed by adenocarcinoma (7.7%) [12]. Enow Oroch *et al.* [22] made an identical observation in their study on the profile of gynaecological cancers in Cameroon, with a predominance of squamous cell carcinomas (87.3%) followed by adenocarcinoma (5.43%). The same observation was also reported in Morocco by Berraho *et al.*, with 90.5% squamous cell carcinomas and 5% adenocarcinomas [23]. This finding could be explained by the fact that cervical cancer generally originates at the junction between the columnar epithelium and the squamous epithelium, hence the predominance of squamous cell carcinomas.

Regarding the stage of cancer development at the time of diagnosis, more than 7 in 10 patients (71.7%) were diagnosed at stages II (33.3%), III (31.0%) and IV (7.3%) of the disease (text 2). Such findings are consistent with those of Dem in Senegal [24], Bagnan in Benin [12] and in Cameroon, who found 72.7%, 69.0% and 65.23% of advanced stages of cervical cancer at the time of diagnosis, respectively. Delayed diagnosis and the inadequacy of the national early screening program for this disease may explain this finding.

4.4. Management

More than 9 out of 10 patients had undergone surgical treatment, 71.7% of whom had undergone extended colpohysterectomy with lymphadenectomy (text 3). Surgical intervention was the first-line treatment for advanced stages due to the unavailability of radiotherapy in our country. In the series by N'guessan K *et al.* [15], only 15 patients (8.8%) had undergone a surgical treatment, including 3 total hysterectomies and 12 extended colpohysterectomies with lymphadenectomy, whilst surgical abstention was observed in the majority of patients (91.2%). Extended colpohysterectomy with lymphadenectomy was performed in 17.2% of patients in the study by Gueye L *et al.* [11]. In the study by Hatim G *et al.* [25], 45.8% of patients underwent a surgical treatment, of which 67.5% were extended colpohysterectomies with lymphadenectomy. Concomitant chemotherapy was administered to 97.0% of patients, and all patients received radiotherapy (100.0%) [25].

4.5. Prognosis

With regard to recurrence, we identified 6 cases (2.0%), involving the pelvic, vaginal and cervical regions (text 6). This result contrasts with that of Gueye L *et al.* [11], who found no cases of recurrence in their series in Thiès, Senegal, in 2020.

The advanced-stage cancer (metastatic stage) and septic shock were the commonest causes of death (text 7). A similar observation was reported by N'guessan K *et al.* [15], who noted that all deaths recorded in their series occurred at an inoperable stage of the disease and had received a palliative care.

The one-year survival was 95.0% and the five-year survival was 19.3% (Figure 3). Different findings were reported in the work of Guéye L *et al.* in Thiès, namely an overall one-year survival rate of 35.9%, and by Hati G *et al.* [25] in Morocco in 2025, with an overall five-year survival rate of 78.0%. The early stage of diagnosis of the disease and the availability of therapeutic options in North Africa (chemotherapy and radiotherapy) for advanced cases could explain this disparity in survival rates.

5. Conclusions

Cervical cancer is a major public health problem in our country and ranks first among gynaecological and breast cancers in our facility. It is responsible for a high mortality rate due to the late diagnosis and the difficult access to certain treatment options for advanced stages.

Raising public awareness of HPV vaccination, the early detection and management of precancerous lesions, and the improvement of access to radiotherapy could help in improving the prognosis for patients.

Authors' Contributions

All authors contributed to the completion of this work.

Conflicts of Interest

The authors declare that they have no conflicts of interest relating to this work.

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