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Research Article

Survival of Patients Treated for Locally Advanced Cervical Cancer with Concomitant Radiochemotherapy and Followed at the Brazzaville University Hospital

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Abstract

Introduction: Globally, cervical cancer is the fourth leading cause of cancer death in women, with an estimated 661,021 new cases and 348,189 deaths in 2022, with the highest rates recorded in countries with a low sociodemographic index. In Congo, a real public health problem, it is the second cancer in women after breast cancer. The main objective of this study was to estimate the overall survival of patients treated for locally advanced cervical cancer with concomitant radiochemotherapy (CCR) and followed at the Brazzaville University Hospital.

Methods: This was a retrospective study of locally advanced cervical cancers that received treatment with RCC and were followed at the Brazzaville University Hospital between 2015 and 2024. Survival was estimated using the Kaplan-Meier method. The study of prognostic factors was done using the Log-Rank test for the comparison between different classes of the same variable and the Cox model for multivariate analysis.

Results: A total of 43 cases of cervical cancer that benefited from RCC were collected at the Brazzaville University Hospital between 2015 and 2024. The mean age was 56.7 ± 13.8 years, with extremes of 31 and 84 years. Forty cases (93.2%) were discovered as a result of gynecological symptoms. Squamous cell carcinoma was found in 40 patients (93.02%). FIGO stage II was the most common (53.49%). All patients were treated with RCC and 8 (18.60%) received complementary brachytherapy. Twenty-two (51.16%) female patients died during the study period. The overall survival rate was 79.65% at 3 years and 51.6% at 5 years. The 3- and 5-year PFS were 67.11% and 36.74%, respectively. No significant prognostic factors were found in the cohort.

Conclusion: The overall 5-year survival rate in cervical cancer patients treated with RCC in Brazzaville is relatively good. The results provide valuable information for research and policy development in the prevention and management of cervical cancer.

Keywords: Cervical Cancer; Concomitant Radiochemotherapy; Survival

Introduction

Cervical cancer is the uncontrolled and uncontrolled proliferation of malignant cells developed at the expense of the subisthmic part of the uterus [1]. Cervical cancer ranks fourth among women after breast, colorectal and lung cancers globally [2,3]. It represents the fourth leading cause of cancer death in women, with an estimated 661,021 new cases and 348,189 deaths worldwide according to GLOBOCAN 2022, with the highest rates recorded in countries with a low sociodemographic index [3]. In Central Africa, according to the same source, more than 4740 new cases of cervical cancer, resulting in 3391 (71.4%) deaths have been recorded. According to the International Federation of Gynecology and Obstetrics classification (FIGO 2018), the stages between IB3 and VIA are defined as locally advanced cervical cancer [4,5]. For this group

of patients, the standard of care is a combination of radiation therapy and chemotherapy [6,7]. and this protocol has been recommended by the U.S. National Cancer Institute since 1999 [8,9]. In Congo, the inaccessibility of patients to radiotherapy due to the lack of radiotherapy equipment on the territory forces them to travel abroad to benefit from the benefits of this major oncological treatment. Based on these findings, we thought it appropriate to conduct a study on the survival of cervical cancer at the locally advanced stage, the general objective of which is to evaluate the overall survival in patients followed in the oncology and radiotherapy departments of the University Hospital of Brazzaville (CHU-B).

Patients and Methods

It was a cross-sectional descriptive study with retrospective data collection carried out during the period from March 1, 2024 to January 30, 2025, i.e. a period of 10 months. The study took place in the Carcinology and Radiotherapy departments of the CHU-B. The target population was all patients followed for locally advanced cervical cancer who had received treatment with radiochemotherapy and were followed in the Oncology and Radiotherapy departments of the Brazzaville University Hospital. All cases of cervical cancer, with histological confirmation and managed between January 1, 2015 and December 31, 2024. We excluded cases of cervical cancer for which the records were not usable, especially those with essentially missing variables. We used the comprehensive sampling method. All patients who met the criteria of the study population were retained. The socio-demographic variables used were age, marital status, occupation and socioeconomic level. The date of first specialist consultation, the time limit for specialised consultation, the reason for consultation, the date of diagnosis (result of the histopathological report), body mass index (BMI), histological type and FIGO classification constituted the clinical and anatomical pathological variables. The patient's fate (alive, lost to follow-up or deceased), the date of the last contact and the duration of follow-up were the variables related to the evolutionary aspects. The data collected was stored using Microsoft® Excel version 16.95.3 and Epi Info™ version 7.2.2.6. To analyze the data collected, we used Epi Info™ version 7.2.2.6 and R version 4.5.0 software. The endpoints for this study were progression-free survival (PFS) and overall survival (OS). Survival rates were estimated using the Kaplan Meier method, and the curves were compared using the Log-Rank test. Univariate and multivariate Cox proportional hazards models were used to assess the influence of parameters on survival. Statistical significance was defined for values of $p < 0.05$.

Results

43 patients with cervical cancer who met the study criteria were included. The mean age of the patients was 56.4 ± 13.7 years (range: 31 and 84 years). Figure 1 shows the distribution of patients with locally advanced cervical cancer treated with concomitant radiochemotherapy and followed at the Brazzaville University Hospital by age group.

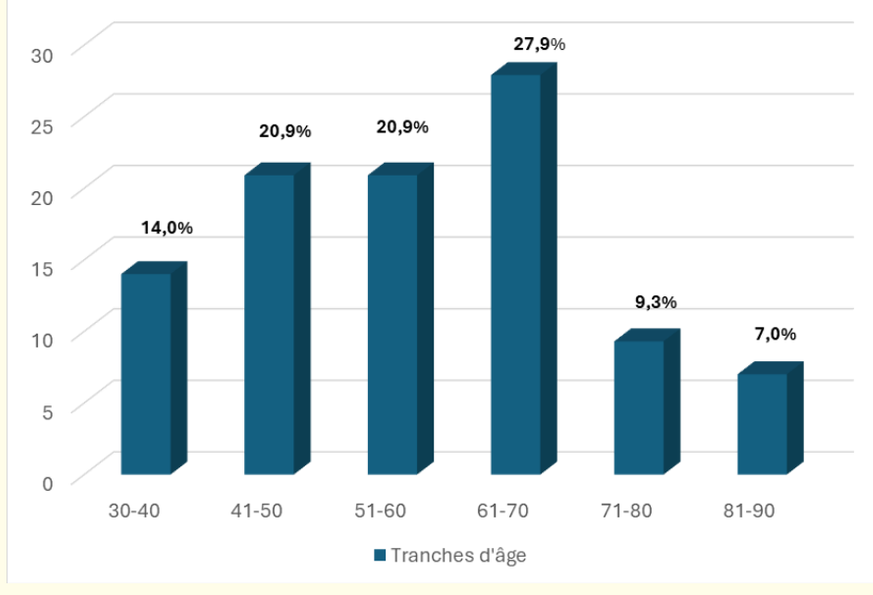

Figure 1: Age distribution of patients treated with RCC.

Table 1 reports the risk factors in women with locally advanced cervical cancer who have benefited from RCC and are followed at the Brazzaville University Hospital.

	n	%
Age at first sexual intercourse		
Average age ± SD (in years)	15,60 ± 1,02	
≤ 15 years	28	65,12
> 15 years	15	34,88
Gesturity		
Medium ± SD	6,32 ± 2,90	
Median (q1; q3)	6 (5 ; 9)	
0	-	-
1-2	4	9,30
≥ 3	39	90,70
Parity		
Medium ± SD	5,13 ± 2,71	
Median (q1; q3)	5 (3 ; 6)	
0	-	-
1-2	4	9,30
≥ 3	39	90,70
Sexual activity (cumulative number of partners)		
Medium ± SD	4,86 ± 2,49	
1	2	4,65
2-5	16	37,21
≥ 5	25	58,14
History of sexually transmitted infection	7	16,28
Contraception œstroprogestative	5	11,63
Smoking	2	4,65
HIV infection	7	16,28

Table 1: Risk factors.

	n	%
Democratic Republic of the Congo	17	39,54
Republic of Congo	10	23,27
Cameroon	9	20,93
Gabon	2	4,65
Morocco	2	4,65
Cote d'Ivoire	1	2,32
France	1	2,32
Senegal	1	2,32

Table 2: Place of processing.

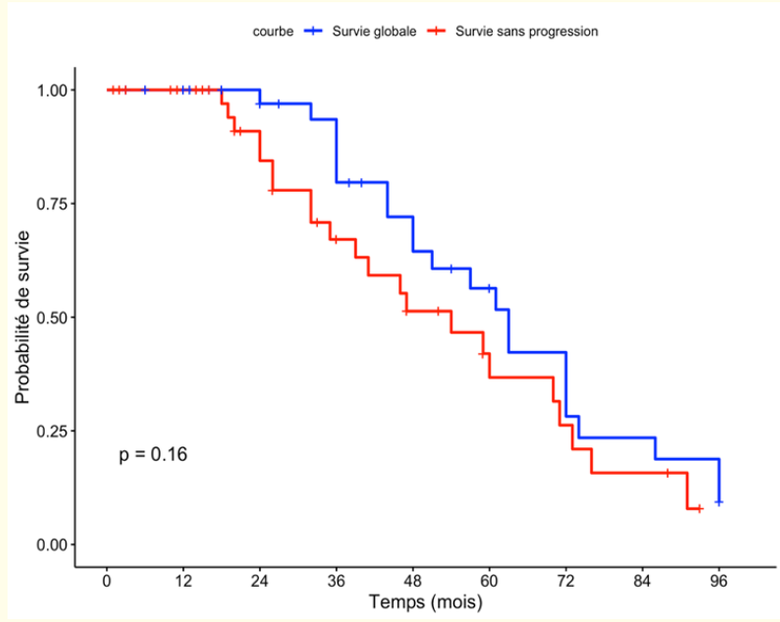

Figure 2: Comparison of survival curves.

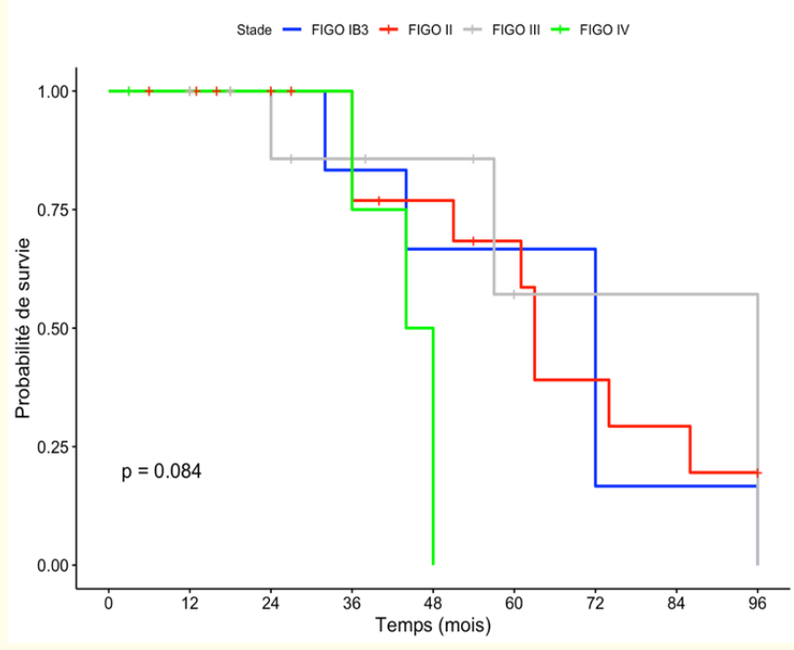

Figure 3: Survival curve as a function of FIGO stage.

Discussion

The median age of our patients at diagnosis was 57.22 years, with an average age of 56.7 ± 13.84 years with extremes of 31 and 84 years. Data from the literature show that the age of onset of cervical cancer varies widely, ranging from 25 to 88 years [1,4]. Ngatali., *et al*. in Congo had found an average age of 49 ± 11.97 years with extremes of 28 and 75 years in a study on the epidemiology of gynecological and breast cancers in Pointe Noire [5]. Authors have reported results similar to ours: Joko-Fru., *et al*. found a median age of 54 years in a study of on the survival of patients from 13 population-based cancer registries in 11 sub-Saharan African countries diagnosed between 2005 and 2014 [6]. In Cameroon, Mapoko., *et al*. had found an average age of 52.82 years [4]. In our study population, the average age of first sexual intercourse was from 15,30 ± 1.07 years. African studies have reported a similar average age to ours. For example, in Cameroon, Mapoko., *et al*. found an average age at first sexual intercourse of 16.73 ± 2,16 [4]. The average parity of our study population was 5,00 ± 2.7. In Nigeria, Anolue., *et al*. had noted that multiparity was significantly associated with the development of cervical cancer [15]. Elmajjaoui et al., found in their series, 63% of women with cervical cancer who had more than 4 deliveries [16]. The mean age at first delivery was 17.74 ± 2.55 years. This result is similar to that of Mapoko., *et al*. who had found 18.92 ± 3.44 years [4]. These results highlight the essential role of early sexual activity in influencing the risk of cervical cancer. The mean time from first symptom to diagnosis was of (25.26 weeks ± 37.05). The most common stages were stages IIB (41.86%) followed by stages IIIA-C (25.58%). Our results are similar to those of Mapoko., *et al*. in Cameroon, who found 21.6% for stages IIIB [4]. In Brazil, Mascarelo., *et al*. found 31.4% for stage II and 44% for stage III [2]. In Spain, Sanz-Garcia., *et al*. found 10.8% stage IIA in a series of patients with locally advanced cervical cancer; 48% IIB; 17.6% stage IIIB; and 4.1% stage IVA [8]. Wu., *et al*. in China had also found a predominance of stage IIB with 60.4%, 6.1% for stage IB2, 12.7% (IIA2), 4.0% (IIIA), 15.1% (IIIB), and 1.7% (IVA) [1]. Likewise Marita., *et al*. in Romania reported 32.4% of stage IIB cases, 42% of stage IIIA disease and 25.6% of stage IIIB disease [21]. The median survival of cervical cancers treated with RCC and followed at the Brazzaville University Hospital from 2015 to 2024 was 63 months. This means that 50% of patients treated with RCC for cervical cancer would die after 63 months. In a study carried out in Morocco, Elmajjaoui., *et al*. observed a median 5-year survival of 63.2% [16]. The overall survival rate was 100% at 1 year, 79.65% (± 7.43; 95% CI: [66.3; 95.6]) at 3 years and 51.6% (± 9.8; [35,5 ; 75,2]) at 5 years old. Our results are comparable to those of the literature. Indeed, Tshewang., *et al*. found in Bhutan, a survival rate of 80% for cervical cancer after RCC [74-87] at one year, 59% [49-72] at three years and 49% [35-69] to five years [3]. Chopra., *et al*. found a 5-year overall survival of 54% in patients treated with RCC for CCLA in India [9]. The median follow-up was 24 months, with an average of 29.73 ± 21,13. Our results are close to those of Sanz-Garcia., *et al*. who had noted a aftercare median of 22.4 months [2,3-61,2] in patients treated with RCC for cervical cancer in a specialized center in Europe [8]. Twelve (27.91%) patients experienced recurrences during follow-up. The time to relapse varies between 18 and 76 months. Five patients (11.63%) had local recurrence, four (9.30%) had local recurrence associated with metastatic relapse and two (4.46%) had isolated metastatic relapse and 9.30%. In Morocco, Elmajjaoui., *et al*. reported 22.7% of local recurrences and 13.8% of metastatic recurrences [16]. The 3- and 5-year PFS were 67.11%, respectively (± 9,9 ; 95% CI: [21,67;62,3]) and 36.74% (± 8,6 ; IC95% [52,19; 86,3]). Elmajjaoui., *et al*. had observed a better PFS with 60.7% at 5 years with a 79.1% probability of relapse [16].

In a meta-analysis investigating the effects of RCC on cervical cancer, Vale., *et al*. reported a PFS of 58% after RCC [26]. This low PFS rate could be explained by the fact that our sample size was small, and in addition the treatment protocols in our series varied from one treatment site to another. On the other hand, Maranga., *et al*. in Kenya, had noted a PFS rate of 20% at 5 years and this was partly due to the fact that many patients did not receive adequate treatment because of financial limitations [27]. In univariate analysis in our series, we noted that hypertension as a comorbidity was associated with a low overall survival rate (p = 0.007). Although several studies have found that age and FIGO stage were important prognostic factors in cervical cancer survival, univariate analysis of our series did not give a significant difference between age groups and FIGO stages with values of p = 0.68 and p = 0.18 respectively [28,29]. Moore., *et al*. had noted that for patients over 50 years of age with CCLA, the risk of death from all causes increased by 2% each year, while age was not significantly correlated with disease-specific PFS and OS [30]. Liu., *et al*, for their part, found similar results to ours, noting that age was not a prognostic factor influencing the survival of CCLAs treated with RCC [31].

Conclusion

The survival of patients treated for locally advanced cervical cancer with radiochemotherapy and followed at the Brazzaville University Hospital revealed a high overall survival and progres-

sion-free survival. Although these survival rates are generally comparable to those reported in other studies in Africa and globally, multivariate analysis did not identify any significant prognostic factors for overall survival and progression-free survival in this study. These results reinforce the need for the acquisition of a radiotherapy machine to ensure optimal care for women with cervical cancer in Congo.

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