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Research Article

Delays in Diagnosis, Treatment and Follow-up of Cervical Cancer in Fianarantsoa, Madagascar during 2014 to 2018: A Descriptive Study

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Abstract

Introduction: Cervical cancer is common among cancer of the women in Madagascar and it is diagnosed at an advanced stage. The aim of this study was to describe the different delays in cervical cancer care at the Oncology Department of the Tambohobe University Hospital in Fianarantsoa.

Methods: A descriptive retrospective study from 1st January 2014 to 31st December 2018 was conducted at the Oncology Department of the University Hospital of Tambohobe in Fianarantsoa, Madagascar. We included all new diagnosis of cervical cancer. We collected socio-demographic data, delays and the outcomes at 12 months after the diagnosis. Delays were categorized into: patient delay, referral delay, diagnostic delay, treatment delay and the follow-up.

Results: We included 42 patients. Mean age at diagnosis was 53.28 +/- 9.74 years. Advanced stage was observed in 64.28%. The median patient delay was 23 days, the median referral delay was 35 days and the median diagnostic delay was 116 days. After diagnosis, 28.47% was lost of follow-up. Chemotherapy was given to 25 patients and 5 patients undergone surgery. The median treatment delay was 20 days. The median follow-up was 58 days. At 12 months after the diagnosis, 3 patients were alive, one patient had died and 26 patients were lost to follow-up.

Conclusion: A long referral and diagnostic delays were observed. Many patients had not received adequate treatment and the follow-up was insufficient. In this context, screening efforts should be a priority in Fianarantsoa.

Keywords: *Cervical Cancer; Delay; Diagnosis; Follow-Up; Treatment*

Abbreviation

FIGO: Federation of Gynecology and Obstetrics

Introduction

Cervical cancer is the 4th most common cancer and the 4th leading cause of death in the World [1]. The incidence and the mortality rate are higher in Sub-Saharan Africa because of insufficiency of the *Human Papilloma Virus* vaccine, the screening program and the treatment particularly, the radiotherapy [1,2].

In Madagascar, few data were published on these cancers and were mainly concentrated in Antananarivo, the capital of Madagascar. These cancers were among the most common cancers with breast cancer in women [3,4]; they are diagnosed at an advanced stage limiting curative treatment and post-treatment follow-up is insufficient [3,5]. Thus, the screening program has been introduced according to the National Policy of fight against cancer but this program is not effective [6]. Early cancer care has an impact on survival [7]. It has been reported that a long patient delay and a long treatment delay negatively affect survival in cervical cancer [8]. The knowledge of these different delays could help to improve the quality of care provided to the population [9].

To our knowledge, no study on delay in cervical cancer has been conducted in Madagascar and especially in Fianarantsoa. Also, our aim was to describe these delays at the Oncology Department of the Tambohobe University Hospital in Fianarantsoa.

Methods

This was a descriptive retrospective study from 1st January 2014 to 31st December 2018 at the Oncology Department of the University Hospital of Tambohobe in Fianarantsoa. We included all medical records of cervical cancer seen at the Department and excluded all incomplete data.

Variables analyzed were age, occupation, place of residence, parity, stage of disease according to the FIGO classification, initial symptoms, date of the first symptom, date of the first medical consultation, date of the final referral by general practitioner to the cancer diagnostic center, the date of histological diagnosis, date of the initiation of treatment, date of the latest follow-up in the Department and the state of health at this latest follow-up.

We defined the patient delay as the number of days between the date of the first symptoms and the date of the first medical consultation; the referral delay was defined as the number of days between the date of the first medical consultation and the date of the final referral by general practitioner to the cancer diagnostic center; the diagnostic delay was defined as the number of days between the date of the first symptoms and the date of the histological diagnosis; the treatment delay was defined as the number of days between the date of the histological diagnosis and the date of the initiation of the treatment (chemotherapy or surgery) and the follow-up delay was defined as the number of days between the date of the diagnosis and the date of the last follow-up at the Department of Oncology. The state of health at 12 months after the diagnosis was categorized into 3 types: alive, death or loss of follow-up. The data was analyzed on Epi info version 7.

Results

We included 42 patients. Mean age at diagnosis was 53.28 ± 9.74 years. Table 1 summarizes the demographic and medical characteristics of patients; in 40.48%, the patients were farmers, abnormal vaginal bleeding was the initial symptom of the disease in 88.10%. According to the FIGO classification, stages I and II accounted for 35.71% of cases (n = 15) and stages III and IV accounted for 64.28% (n = 27) (Figure 1).

	Number	Percentage (%)
Age at diagnosis (in years)		
< 35	1	2.38
35 - 50	14	33.33
> 50	27	64.29
Occupation		
Farmer	17	40.48
Housewife	13	30.95

Other liberal professions	9	21.43
Private	2	4.76
Retired	1	2.38
Residence		
Urban	20	47.62
Rural	8	19.05
Other regions	14	33.33
Parity		
≤ 3	7	16.67
> 3	35	83.33
Initial symptoms		
Abnormal vaginal bleeding	37	88.10
Pelvic abdominal pain and abnormal vaginal bleeding	3	7.14
Smelling vaginal discharge	2	4.76

Table 1 : *Demographic and clinical characteristics of patients with cervical cancer.*

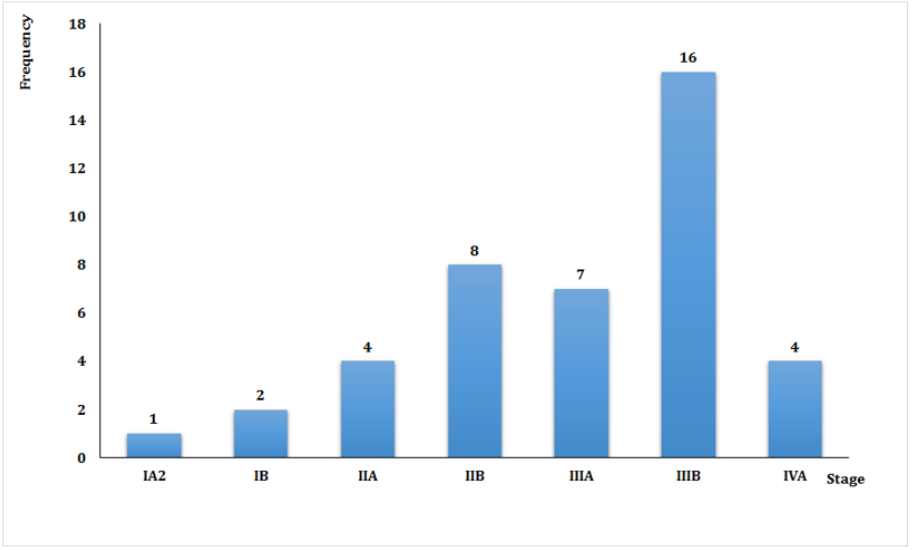

Figure 1: *Stage of cervical cancer according to the FIGO classification.*

Table 2 summarizes the delay in management and follow-up of cervical cancer. A patient delay of more than 1 month was observed in 47.62%. Specific treatment was given in 30 patients while 12 patients were lost to follow-up after the diagnosis (28.47%); the first treatment was the chemotherapy in 25 patients and the surgery in 5 patients. Among the patients treated, three patients (10%) were still followed and were alive, one patient (3.33%) had died and the remaining 26 patients (86.67%) were lost to follow-up at 12 months of diagnosis.

Delay	Number	Mean ± standard deviation (in days)	Median (in days)	Minimal (in days)	Maximal (in days)
Patient delay	42	66.14 ± 93.28	23	0	393
Referral delay	42	132.62± 250.70	35	0	1216
Diagnostic delay	42	192.90 ± 252.26	116	10	1250
Treatment delay	30	59.3 ± 106.44	20.5	3	510
Chemotherapy delay	25	66.08 ± 115.33	21	3	510
Surgery delay	5	25.40 ± 24.71	13	10	68
Follow-up delay	42	104.71 ± 131.21	58	0	609

Table 2 : *Delay of cervical cancer care.*

Discussion

Our study describes the different delays in the management of patients with cervical cancer since the onset of the first symptoms to the latest follow-up at the Oncology Department of University Hospital of Tambohobe in Fianarantsoa. To our knowledge, our results are the first data in this field in Madagascar but the study is limited by the small size of our sample.

Our median patient delay was 23 days and the mean delay was 66.2 days or 16.5 weeks. This is shorter than that observed in Nepal with a median delay of 68 days and that observed in Malawi with an mean delay of 23.1 weeks [10,11]. Our delay joins the results observed in Denmark with a median patient delay of 27 days [12]. The population would consult more quickly in the presence of symptoms. However, the majority of our patients were diagnosed with an advanced disease and all patients had a symptom whereas, early-stage cancers are asymptomatic and can be detected during screening [13]. In Madagascar, cervical screening by visual inspection with acetic acid was carried out in 2007 in five health districts including Fianarantsoa [6]. This screening has been discontinued, which limits the early diagnosis of this cancer.

Regarding the referral delay, our median delay was 35 days and the mean delay was 132.62 days or 33.15 weeks. This delay is short compared to that of Gyenwali in Nepal, where the median delay is 40 days [10]. Moreover, according to National Health Service recommendations in the United Kingdom, all cancer patients should be seen in a specialized center within 2 weeks after the first clinical signs [14]. Our referral delay could be explained by the lack of continuing medical education for general practitioners on the signs and the diagnosis of cervical cancer in Fianarantsoa. According to Gyenwali in Nepal, 90% of symptoms were misinterpreted in initial consultation and the cervical examination was not performed in 78.2% [10]. Another reason for the long referral delay could be linked to the distance of the health centers from the cancer diagnostic center; in our study, 52.38% of patients don't live in the urban area of Fianarantsoa.

In our study, the median diagnostic delay was 116 days. In Nepal, this median time was longer estimated at 157 days and 77.3% of patients had a long diagnosis time of more than 3 months [10]. A shorter delay was observed in Denmark with median delay to 99 days [12]. This long delay in our study can be explained on the one hand, by the long referral delay to a center specialized in the diagnosis and the treatment of cancers but also, by the absence of a pathology laboratory in Fianarantsoa from 2014 to 2016; so we need to send biopsy samples to the capital. With the opening of the laboratory in the region, the diagnostic delay factor related to the health system should improve. Other reasons such as lack of financial resources and fear of diagnosis have also been reported [15].

A shorter treatment delay was observed in our study estimated at 20.5 days compared to that of Brazil estimated at 114 days [16]; our results join the National Health Service recommendations where the cancer should be treated within 60 days after diagnosis [14]. Despite this short treatment delay, 28.47% of our patients had not received treatment and were lost after the diagnosis; the majority of our patients were at an advanced stage but had not received adequate treatment because radiotherapy does not exist in Fianarantsoa. According to Da Silva, the use of adequate treatment and chemoradiotherapy treatment were associated with a long treatment delay [16]. In Madagascar, the only radiotherapy center is in Antananarivo [17]; the patients requiring this treatment must come into the capital and that situation increases the time of treatment even more. In addition, it is an expensive treatment, so many patients cannot undergo radiotherapy [17]. We also observed that the treatment delay with surgery was shorter than the delay with chemotherapy, probably because of the need to buy cancer drugs from the capital.

The mean follow-up in our study was shorter compared to Antananarivo which had a mean delay of 9.54 months [5]. This short follow-up would reflect the large number of lost sightings observed in our study; at 12 months of diagnosis, only 3 patients (7.14%) were still followed in the Department while according to Hasiniatsy, a quarter of the patients were still alive and followed after 12 months of diagnosis [5]. The reasons for this loss of follow-up may be the insufficient financial resources for treatment and the lack of curative effectiveness of chemotherapy alone discouraging patients to continue treatment.

Conclusion

Despite a short patient delay, cervical cancers are diagnosed at an advanced stage. Solutions should be sought to improve the referral and diagnostic delay of this cancer. Many patients had not received adequate treatment and the follow-up was insufficient. In this context, screening efforts should be a priority in Fianarantsoa.

Conflict of Interest

We don't have any financial or conflict of interest.

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