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Review Article

Therapeutic Response of Congolese Patients Treated with Radiotherapy Abroad for Cervical Cancer

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Abstract

Cervical cancer is the second most common cancer in women in Congo. Its management requires the use of radiotherapy, either exclusively, or after surgery or in combination with chemotherapy, especially in the advanced stages.

Patients are diagnosed in most cases at advanced stages and are treated as standard with concomitant radiochemotherapy.

The current unavailability of radiotherapy in Congo forces patients followed at the University Hospital of Brazzaville to travel abroad to benefit from this type of treatment, which is essential for the management of cervical cancer.

After radiotherapy, monitoring makes it possible to assess the therapeutic response in order to reassure patients of the possibility of complete remission or cure. This post-radiation monitoring is clinical, biological and radiological.

We thought it appropriate to take stock of patients treated with radiotherapy abroad for cervical cancer.

Keywords: Response; Radiotherapy; Cancer; Cervix; Foreign

Introduction

Cervical cancer is the second most common cancer in women in Congo. Its management requires the use of radiotherapy, either exclusively, or after surgery or in combination with chemotherapy, especially in the advanced stages.

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Patients and Methods

We undertook a descriptive retrospective study in the radiotherapy, medical oncology and gynecology departments of the Brazzaville University Hospital (CHUB), between January 2018 and December 2022.

To be included in the study, patients had to meet the following criteria: ° Have histological confirmation of the diagnosis of cervical cancer;

- Have benefited from radiotherapy treatment abroad;
- Have a medical report confirming the effectiveness of the radiotherapy treatment;
- Have the medical imaging reports of the various check-ups.

The patients were referred for radiotherapy by the medical oncology and gynecology-obstetrics departments of the Brazzaville University Hospital.

All patients had received radiotherapy abroad and had a medical report signed by a radiation oncologist.

Patients were treated with particle accelerators in Kinshasa in the DRC, Bamako in Mali, Rabat and Casablanca in Morocco and Paris in France. The radiotherapy received was of the conformal type with or without intensity modulation (IMRT or MRI).

The external beam radiotherapy treatment took place in two stages: the simulation first and then the actual treatment.

This imaging also made it possible to obtain the data necessary to carry out the dosimetry.

During the treatment phase, all patients received the total dose of 70 Grays in 35 sessions with a classic split of 2 Grays per session in two phases. In the first phase, patients received 46 Grays in 23 sessions and in the second phase, patients received 24 Grays in 12 sessions with or without boost (additional irradiation) on the parameters and pelvic or lumbo-aortic nodes.

Patients were seen by the radiation oncologist every three months for two years, then every six months for three years, and finally annually after more than five years of follow-up. This monitoring is clinical and radiological.

Clinically, through a thorough interview and a careful clinical examination, it is a question of looking for the signs of a possible local cervical recurrence, a new suspicious lesion of recent appearance, but also of screening, diagnosing and treating the appearance of acute or late side effects of radiotherapy.

Radiologically, the examinations are not systematic.

In case of warning signs and depending on the suspected organ, a magnetic resonance imaging (MRI) is the first examination recommended to better explore the pelvis.

In general, examinations after radiotherapy for breast cancer will be carried out at least three months after the end of radiotherapy, after which the standard radiotherapy follow-up schedule will be respected.

The Graph pad Prism 5 software was used to calculate the spread and to compare our data with those in the literature.

Results

During the study period, 78 patients treated with radiotherapy for cervical cancer were registered. The mean age was 51 years (range: 36 - 77 years).

The most common histological type was invasive squamous cell carcinoma.

Patients were classified according to the FIGO classification (Table 1).

Table 1: Distribution of patients by age and stage of extension (FIGO).

Age groups	IIA2	IIB	IIIA	IIIB	VAT	Total
30-40		3	1	1		5
41-50	1	6	3	3	2	15
51-60	2	2	18	14	6	42
61-70		2	4	6	2	14
71-80				1	1	2
Total	3	13	26	25	11	78

The different types of side effects observed during monitoring are illustrated in Figures 1 and 2 and the therapeutic response observed and the examinations performed during monitoring are illustrated in Figure 3.

Patient monitoring was carried out according to the standard follow-up schedule for patients treated with radiotherapy.

Discussion

The therapeutic response after radiotherapy for cervical cancer depends on the total dose delivered homogeneously to the tumour, the protection of the surrounding organs and the radiotherapy technique used.

After radiotherapy for cervical cancer, it is essential to set up regular follow-up to ensure that the disease does not recur. Regu-

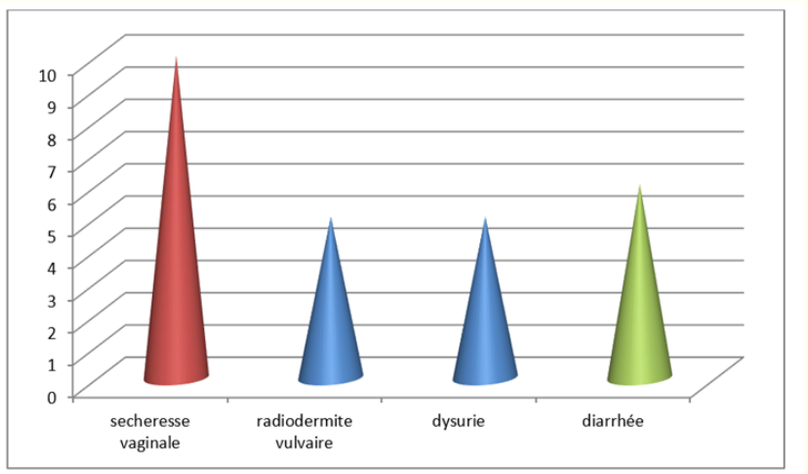

Figure 1: Acute adverse reactions during surveillance.

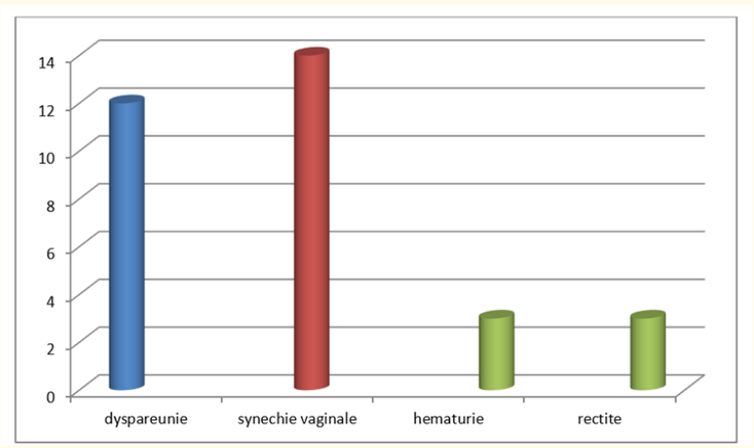

Figure 2: Late side effects during monitoring.

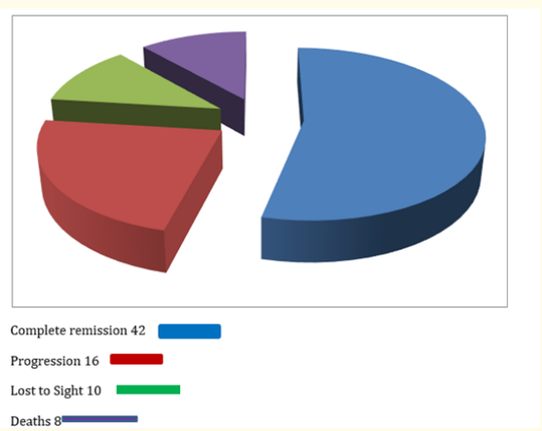

Figure 3: Therapeutic response during monitoring.

lar monitoring can also be an opportunity for women to inform the medical profession of the difficulties encountered in their post-cancer life, and to address delicate subjects such as sexuality or psychological disorders.

Several randomized clinical trials have shown that concomitant radiochemotherapy (CCR) has become the gold standard in the treatment of locally advanced cervical cancers. This therapeutic modality is superior to exclusive radiotherapy in terms of local control, recurrence-free survival and overall survival [1]. Indeed, the success of radiotherapy depends mainly on the total dose delivered homogeneously to the tumor because this will ensure local control but also on the protection of the so-called at-risk neighboring organs. However, the delivery of this dose is limited by the tolerance of healthy tissues in the irradiated volume.

Preserving the quality of healthy tissue is therefore a major concern for the radiotherapist and must be integrated into the daily care and follow-up of patients. The time to onset of secondary lesions depends solely on the lifespan of mature cells. The duration of functional recovery is determined by the severity of stem cell depletion, which in turn results from the dose received [1,2]. The earliest reactions appear in rapidly changing tissues such as the skin (epithelitis) and mucosa (mucositis).

If the radiation dose is high enough to kill all stem cells, cell regeneration depends on the ability of stem cells to migrate from adjacent non-irradiated tissue regions. In this case, the volume or irradiated surface influences the severity and duration of acute toxicities [4,6].

During the treatment period, side effects such as vulvovaginal radio-epithelitis and proctitis, as well as dermatitis in the intergluteal fold were observed in almost all irradiated patients.

Acute side effects that occurred during irradiation and in the first three months of treatment were observed in 26 patients. However, late side effects that occurred beyond three months after the end of radiotherapy were observed in 32 patients.

Other side effects described in the literature below may be observed: vaginal dryness, dyspareunia, synechia, vaginal fibrosis, etc. Healing occurs by re-epithelialization from the islands of surviving cells of the basal layer. Early lesions of the epidermis are not very dependent on the dose per session but are strongly influenced by spreading because of cell repopulation. Treatment of acute side effects depends on the grade or extent of the injury. Thus, for grade 1 and 2 lesions, the application of aqueous Eosin is recommended after the radiotherapy session and then in the evening at bedtime. All of the patients irradiated in our series who experienced acute side effects were treated with aqueous Eosin. The acquisition of a linear accelerator to replace the cobaltherapy machine at the University Hospital of Brazzaville will certainly minimize the acute toxicities observed in most of our patients and improve the quality of life of our irradiated patients.

Summary

Cervical cancer ranks second among female cancers in Congo. Its management requires the use of radiotherapy either exclusively, or after surgery or in combination with chemotherapy, especially in the advanced stages.

Patients are treated in most cases in the advanced stages and are treated as standard with concomitant radiochemotherapy. The current unavailability of radiotherapy in Congo forces patients treated at the University Hospital of Brazzaville to travel abroad to benefit from this type of treatment, which is essential for the management of cervical cancer. After radiotherapy, monitoring makes it possible to assess the therapeutic response in order to reassure patients of the possibility of complete remission or cure. This post radiation monitoring is clinical, biological and radiological.

We thought it was an opportunity to take stock of patients treated by radiotherapy abroad for cervical cancer.

Conclusion

After radiotherapy for cervical cancer, monitoring is a crucial period of follow-up with patients to assess the therapeutic response of patients.

The acquisition of a radiotherapy machine at the University Hospital of Brazzaville will significantly reduce the frequency of medical evacuations and improve the quality of life of patients with cervical cancer.

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