

RADIATION - INDUCED SARCOMA: A CASE REPORT”

Summary

Objective - Study the epidemiology, histology, time to onset, ~~T~~treatment and prognosis of radiation induced sarcomas.

Observation – We report a case of sarcomas occurringed in irradiated area, in a patient treated by external radiotherapy for left orbit cancer.

Discussion - Few series of induced radiation sarcoma of the cervical and facial region have been published ~~these~~ over the last twenty last years. Their ~~p~~prevalence is low; several factors are recognized in their carcinogenesis. Genetic predisposition, ~~c~~hemotherapy, and radiotherapy.

Conclusion - Radiation therapy can induce cancer after a latency period of several years. The risk is low but increases proportionately with a longer ~~period of -life of patients~~ period of treatment. ~~These -radiationinduced~~ These sarcomas have generally an unfavorable prognosis ~~and their~~. ~~Their~~ treatment is primarily ~~surgical~~ with surgery.

Keywords: Sarcoma, radiotherapy, orbit Cancer

~~Introduction~~ INTRODUCTION

Radiation therapy is a local-regional treatment of tumors, especially malignant (95%).

performed by ionizing radiation; it is estimated to be used in about half of all cases of cancer,

either with surgery and/or chemotherapy, ~~either alone~~. Complications are sometimes observed and, the most serious is the radiation-induced sarcoma. Radiation-induced sarcomas occur in or on the edge of the radiation field and; histology tends to be different from the initial lesion. ~~They occur~~ ing. At least five years after the initial lesion (Criterion of Cahan and al in 1948) [1]. These secondary cancers are generally higher grade and grafted of poor prognosis [2]. Most ~~of~~ publications on radiation-induced sarcomas have described tumors that occur after the treatment of breast cancer. The first case of parietal osteosarcoma after breast radiotherapy was described by Beck in 1922 [3]. ChauveincL and al. ~~have~~ described cases of radiation induced leiomyosarcoma of the chest wall [4]. Important series have been published but the majority are case reports ~~of cases were reported separately~~, often with little detail. This ~~;-this~~ makes it difficult to assess the prevalence of this tumor. From a case of radiation-induced sarcoma in a patient treated for cancer of the left orbit at the National Institute of Oncology in Rabat Morocco in 1993 and a literature review we discuss epidemiology, histology, appear-mean interval, ;-treatment, and prognosis of these secondary tumors.

PATIENT AND METHOD

Observation 1: In 1993, a ~~Patient of~~ 64 years old, without p ~~Personal or family antecedents~~ presented to us, ~~He consulted~~ for a nodule of the lower left eyelid ~~in 1993~~.

The clinical examination had objectified a bulky budding tumor of the left orbit. The lesion is extended on the cheek, and the left temple and t. The eyeball is-was totally destroyed. The ~~e~~ Cervical palpation did not objectify adenopathy and the loco-regional assessment was normal. The biopsy revealed a pigmented basal cell carcinoma. ~~The loco-regional assessment was normal~~. A complete excision of the tumor was made and t The resection limits were Healthy. Anatomopathology revealed basal cell epithelioma. ~~The anatomopathology revealed a basal cell epithelioma. The resection limits were Healthy~~. The patient received external radiotherapy with Cobalt 1.25 MeV in the total dose of 30Gy in 10 fractions and a

complement with electrons of 10.5 MeV, to ~~the a~~total dose of 24Gy in 8 fractions ~~either for~~ total duration of 38 days. He stayed in good local and regional control until 1995. He presented ~~awith a~~ recurrence of ~~the~~ left orbit extend~~ing~~~~ed on to~~ the cheek. The patient was ~~re-~~operated with total resection. The anatomopathology revealed basal cell epithelioma. Then the patient was lost to ~~sight follow-up~~ from 1996 to 2010, ~~returning at that point in time to this date, he consults~~ for a mass of the left cheek.

A facial and cervical tomodensitometry has ~~objectified-identified~~ a heterogeneous tumor process encompassing the entire left maxillary sinus ~~of measuring~~ 47mm x 57mm x 77mm, ~~with~~ lysis of the anterior wall of the sinus and extension to ~~its~~ soft parts. ~~This process causes~~ lysis of the floor of the orbit with intra orbital extension. ~~There was also an~~ invasion of the left nasal fossa ~~with abnormally resulting in swollen aspect of the~~ nasal septum ~~swelling~~, and ~~a filling congestion~~ of the left frontal sinus. The biopsy was performed ~~and; the~~ ~~anatomopathology histopathology~~ with immunohistochemistry has ~~objectified~~ ~~revealed~~ leiomyosarcoma. ~~At last visit, t~~ The patient was ~~refusing for S~~ surgery because of the extent of the lesions. ~~Though h~~ He received an analgesic radiotherapy at the dose of 8 Gy in one session; we ~~deplere-report the~~ death of the patient two months after palliative radiotherapy.

2. Discussion**DISCUSSION**

Few series of radiation-induced sarcoma of the cervical and facial region have been published ~~these over the last~~ twenty ~~last~~ years [5]. The improvement of ~~efficacy~~ efficacy of anti-cancer treatments has increased patient survival and in parallel the incidence of radiation-induced sarcomas [5]. Their prevalence is low, ~~of~~ 0.14 to 0.20% with a relative risk (RR) between 1 and 5 [5]. Several factors are recognized in carcinogenesis ~~including g-~~ Genetic ~~predisposition~~ predisposition, ~~n;~~ chemotherapy, and radiotherapy.

Role of genetic predispositions

The frequency of radiation induced sarcoma ~~sarcomas~~ is greater in patients with underlying genopathy, ~~especially such as~~ bilateral retinoblastoma, the peripheral Recklinghausen disease, ataxia telangiectasia, and Li-Fraumeni syndrome [6]. For patients with unilateral retinoblastoma, the risk of second cancer is not significantly increased after irradiation. On the other hand, for those with bilateral retinoblastoma, the risk ~~to of~~ developing a sarcoma of the soft ~~parts-tissue~~ is zero without irradiation and reached 880 after radiotherapy. The risk of bone sarcoma as for him is 270 without irradiation and 630 after irradiation [7].

Role of radiotherapy and chemotherapy

Treatments combining radiotherapy with chemotherapy ~~i~~Increases the risk of a second cancer, ~~like such as~~ leukemias [5]. The delivered dose also plays a role; ~~for instance, -T~~the relative risk ~~to of~~ developing soft tissue sarcoma at ten years from irradiation is 0.5 for doses less than 10 Gy, while it is 2.8 for doses greater than 10 Gy [4]. Prescribed radiotherapy for cancers of the cervical and facial region is 60 to 75 Gy ~~and t-~~The type of radiation could play a role. ~~Finally, n~~Neutrons in place of photons would significantly increase the incidence ~~[should expand more on this]~~ [5].

Histological type

All ~~induced~~ radiation-induced sarcomas should be proved histologically, ~~i~~In the majority of cases, they are not well differentiated, ~~are -and~~ high-grade, ~~with-and most commonly occur~~ ~~asa predominance of~~ osteosarcomas followed by fibrosarcomas [8]. On the other hand, in a large series from the Institut Curie, the histological types were dominated by angiosarcomas in 48% of cases [8] relating to 67 patients ~~[this sentence is not clear], the initial whose~~ 34 ~~initially-were~~ treated by radiotherapy for breast cancer, ~~l~~Leiomyosarcoma was the most common histological type ~~[this sentence also doesn't follow from the previous, needs clarification]~~ [9].

The ~~L~~latency ~~P~~period:

[Begin this sentence by briefly defining the latency period]... Latency varies in the literature from ~~three~~ 3 months to 50 years, with an average between ~~nine~~ 9 and 20 years. The minimum latency admitted to evoke the diagnosis of radiation-induced sarcoma is 3 years [5]. In our study, the latency period is 17 years.

Prognosis:

The prognosis of this ~~affection condition~~ is poor with an estimated five year ~~survivals to~~ ~~survive~~ in 36% of cases [8] and a survival around 33.1 months [is this a median/mean survival estimate? It isn't clear...] [10], ~~a~~. And after an average interval of 12.8 months [what does this average interval mean? Death occurs after this period?] [11]. This poor prognosis is linked to the delay in diagnosis ~~istedelay~~ according to Patel et al; ~~at due to~~ the proximity of the tumors ~~with to~~ neurovascular structures, ~~which make complicating~~ their surgical excision ~~difficult and~~ ~~the limiting the use of~~ adjuvant treatments as a resulting of their available (~~T~~ toxicity and inefficiency). ~~Other factors include~~ the biologically ~~more~~ aggressive characteristics of the radiation induced sarcoma, ~~and~~ the state of immunosuppression induced by the primary tumor and its treatment, the size of the tumor, ~~the incomplete character of~~ surgical excision resection, and the presence of metastases ~~are also factors of poor prognosis~~ [5]. Survival would seem independent to histological type [not clear, expand more this sentence].

Treatment:

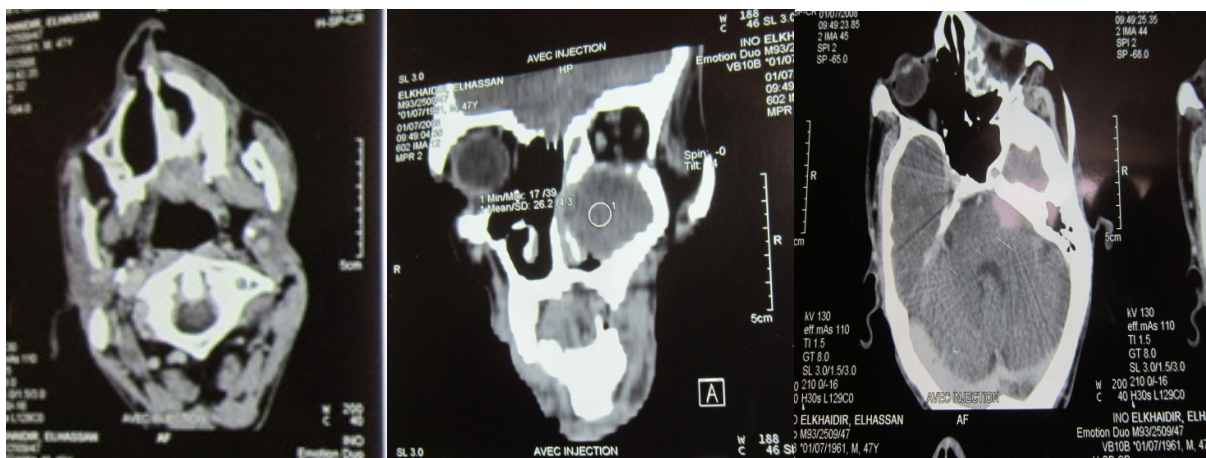
The curative treatment of this pathology cancer is based on wide-excision enlarged surgery. This surgery stays is often difficult to achieve, because of the location, ~~of tumor~~ size, and ~~or of~~ ~~an important~~ extension of the tumor [5]. Chemotherapy has not shown encouraging results, though it can be used alone but with a low response rate [8]. Many combinations have been associations were used such as CYVADIC (cyclophosphamide, vincristine, adriamycine, déticène) and; MAID (mesna, adriamycine, ifosfamide and deticène). Radiotherapy has not

been studied ~~Extensive~~ studies ~~and~~ its place in treating this particular tumor is currently limited [12].

Conclusion

Radiation therapy can induce cancer after a latency period of several years. The risk is low but increases proportionately with the patient's long life ~~of patients treated~~. The radiation-induced sarcomas generally have ~~generally~~ unfavorable prognosis and ~~t~~. Their treatment is primarily surgical and requiring ~~need~~ long-term monitoring of patients to enable early diagnosis and complete excision. The diagnosis is often late and therapeutic options are also reduced.

TDM showing heterogeneous tumor process encompassing the entire left maxillary sinus with lysis of the anterior wall of the sinus and extension to soft parts, lysis of the floor of the orbit with intraorbital extension.



Consent Disclaimer:

As per international standard or university standard, patient's written consent has been collected and preserved by the authors.

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