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Malignant Fibrous Histiocytoma after Radiotherapy for Carcinoma of the Cervix Treatment

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Abstract

Radiotherapy as treatment of tumors without surgical indication may have late complications, such as the onset of other malignant tumors, like sarcomas. Malignant fibrous histiocytoma (MFH) represents an aggressive soft tissue sarcoma and it usually affects elderly patients. MFH of the vagina are usually large lesions due to rapid growth, and histological examination is crucial for establishing a definitive diagnosis. The authors present a case report of a 61-year-old female patient, submitted to radiotherapy for carcinoma of the cervix who presented with a vaginal MFH 9 years after radiotherapy.

Keywords: Malignant fibrous histiocytoma, radiotherapy, carcinoma of the cervix.

Introduction

Radiotherapy is known to cause rarely various malignancies. Post-radiation sarcomas are extremely rare and account only for 0.5–5.5% of all sarcomas [1]. Malignant fibrous histiocytoma (MFH) represents an aggressive soft tissue sarcoma [2] and was first described by O'Brien and Stout in 1964. Most MFH developed de novo and a minority as a long-term sequel of radiation and the radio-induced MFH have a worse prognosis than those not associated with RT [1]. It is a rare tumor of mesenchymal origin, composed of spindle cells and myxoid stroma [3]. It usually affects elderly patients, with the majority of cases occurring in the extremities [3-5]. Malignant tumors originated in vagina account for only about 1% of all gynecological tumors, and gynecological sarcomas are particularly rare [2]. The development of metastasis via hematogenous spread is typical of MH, usually to the lungs and rarely to the bones and lymph nodes [6-7]. The tumor presents high rates of recurrence [3]. Macroscopically, the MFH of the vagina are usually large lesions due to rapid growth [1] and histological examination is crucial for establishing a definitive diagnosis with the identification of atypical spindle or pleomorphic cells with focal myxoid or storiform patterns. Immunohistochemistry is positive in most cases for vimentin, and in some cases for smooth muscle actin and desmin [3], [6].

Case Report

The authors report a clinical case of malignant tumor in a patient treated with radiotherapy for cervical cancer, 9 years before.

A 61-year-old female patient, submitted to radiotherapy for carcinoma of the cervix stage IIb proximal at age 52. In menopause since that time. The patient presented

multiple complications of the radiotherapy, namely: colitis radica, cystitis radica, vesico-vaginal and vesico-enteric fistulas, and underwent surgery with cutaneous ureteroileostomy 7 years after treatment. The patient maintained surveillance in Oncology Gynecology consultation and in a routine abdominopelvic TC scan performed 9 years after radiotherapy for carcinoma of the cervix it showed irregular heterogeneous mass in the vaginal canal. In surveillance consultation, the patient presented with genital hemorrhage and rectal bleeding. The gynecological examination showed hardened and friable vagina, and a hard and painful mass of consistency to the right hypogastric and inguinal palpation. It was performed a biopsy of the vaginal wall and the histological examination revealed hypercellular proliferation of fascicular pattern with fusiform cells with atypical nuclei and cells in mitosis and positive immunohistochemistry for vimentin and CD68 (fibrohistiocytic lesion marker), which was compatible with a soft-tissue sarcoma – MFH (Figure 1). The case was discussed at a Gynecological Oncology group consultation and it was decided to perform palliative care as the neoplasia invaded the pubic bone and extended to the pelvic wall.

Discussion

Post-irradiation sarcoma must be considered in patients of carcinoma cervix treated with radiotherapy if there is a mass seen in the previously irradiated area. All tissues may be affected, to varying degrees, by radiation, which can cause impaired wound healing and fibrosis [2]; the effects relate to the total absorbed dose [6]. Some patients develop a secondary malignancy that manifests years after therapy and this association depends of age at the time of diagnosis; younger patients of cancer of cervix have high risk for second cancer [6].

Malignant fibrous histiocytomas are a group of rare tumors with a poor prognosis [2], [8]. Survival at 5 years is 15-20%, and there is no evidence that it is prolonged by chemotherapy or adjuvant radiotherapy. Radiation therapy may be used as an adjuvant treatment. Yet, the only treatment to improve disease-free survival is radical surgery. Current practice consists of a bloc resection with an approximate 2 cm margin of uninvolved tissue [2].

Conclusion

To summarize, post-radiation sarcomas are extremely rare, affect all age groups and are associated with a poor outcome. After diagnosis, it is important to evaluate the extent of local invasion and to exclude metastatic disease.

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Figures

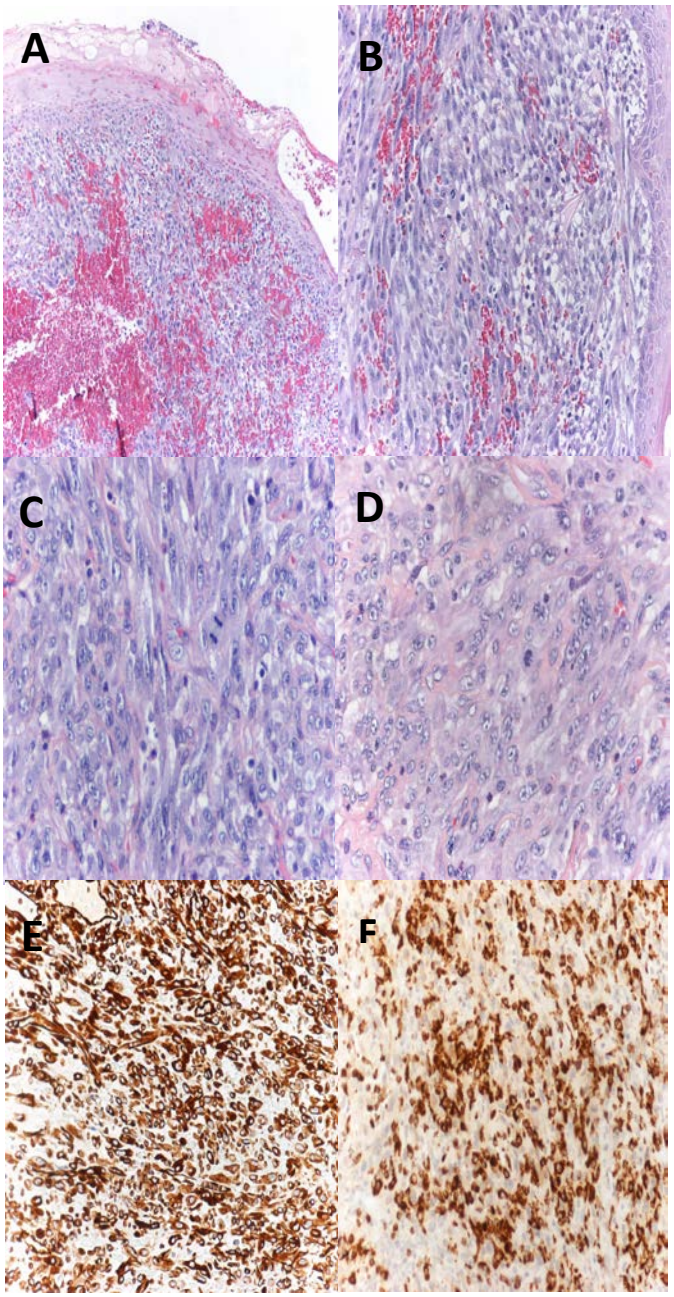

Figure 1: A. (H&E, 4x) Micro-macroscopic image of the ulcerated polypoid lesion; **B**. (H&E, 20x) Hypercellular proliferation of fascicular pattern; **C**. and **D**. (H&E, 40x) Spindle and oval cells with atypical nuclei and cells in mitosis; **E**. (Vimentin, 20x) Positivity for the marker suggestive of fibrohistiocytic lesion; **F**. (CD68, 20x) Positivity for the marker suggestive of fibrohistiocytic lesion.