DOI: http://dx.doi.org/10.3315/jdcr.2016.1228

Journal of Dermatological Case Reports

PHOTOLETTER TO THE EDITOR

Postradiation sarcoma

Cristina Garrido-Colmenero[1], *Ignacio Valenzuela-Salas*[1], *Gonzalo Blasco-Morente*[1], *José Aneiros-Fernández*[2], *Jesús Tercedor-Sánchez*[1]

1. Dermatology Unit, Hospital Universitario Virgen de las Nieves, Granada, Spain;
2. Pathology Unit, Hospital Universitario Virgen de las Nieves, Granada, Spain.

Corresponding author:
Cristina Garrido Colmenero, Virgen de las Nieves Hospital, Avenida de las Fuerzas Armadas Nº2, 18014, Granada, Spain.
E-mail: *cristinagarrido86@gmail.com*

Abstract

Postradiation sarcomas are rare and highly malignant tumors which may appear as a consequence of radiotherapy. They may originate on bone or soft tissues. We report the case of a patient who developed a malignant fibrous histiocytoma 35 years after radiotherapy for a melanoma on her right leg. (*J Dermatol Case Rep*. 2016; 10(1): 17-18)

Keywords:

postradiation, sarcoma, radiotherapy, malignant fibrous histiocytoma

Postradiation sarcomas are rare and highly malignant tumors which occur in patients who underwent radiotherapy for various benign and malignant diseases, after some years of latency.[1] We report the case of a patient who developed a malignant fibrous histiocytoma 35 years after radiotherapy for a melanoma on her right leg.

A 62-year-old woman with a history of melanoma in her right leg 35 years ago who underwent surgical excision and local radiation, achieving healing. She consulted for an ulcer in the same limb, about 4 months of evolution that the patient related to physical trauma. Physical examination revealed an ill-defined ulcerated tumor of 6 cm in diameter on the lateral aspect of right leg (Fig. 1). The skin biopsy of the lesion showed a malignant mesenchymal proliferation of spindle and poligonal cells with hyaline stroma, remarkable nuclear atypia, numerous mitoses and areas of necrosis (Fig. 2). The MRI showed destruction of the diaphysis of the fibula and infiltration of the muscle compartments

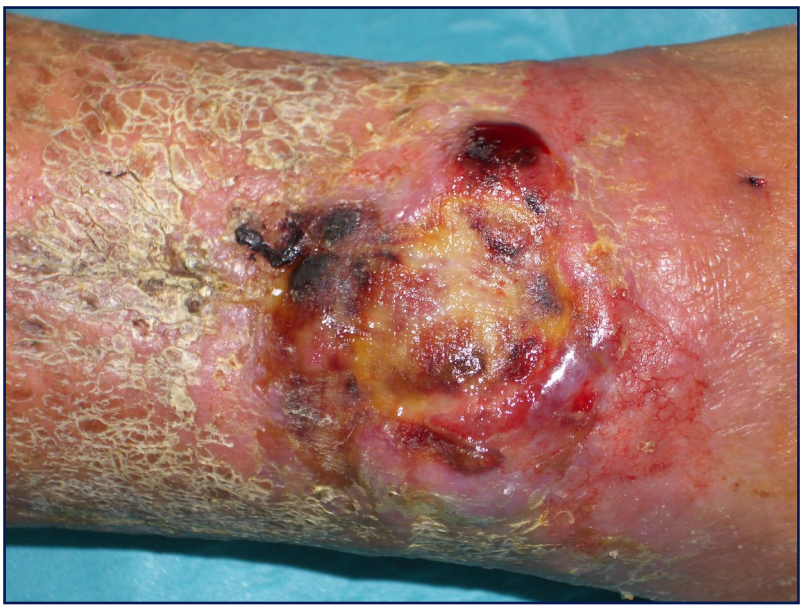

Figure 1

Ulcerated tumor of 6 cm in diameter on the lateral aspect of right leg.

(Fig. 3). The patient was referred to traumatology where she underwent transtibial amputation, confirming the histologic diagnosis of malignant fibrous histiocytoma.

Discussion

The risk of post-radiation sarcoma is higher with combined radio-chemotherapy than with either therapy alone, the reported risk of secondary solid tumors 15 years after chemotherapy, radiation therapy, and radio-chemotherapy has been 1.8%, 9.9%, and 12.9%, respectively.[2] They may originate on bone or soft tissues. Post-radiation sarcomas tend to be poorly differentiated with a 5-year survival rate of 11-29%,[3] local recurrence of 50-68%,[3] and high propensity for lung metastases.[4] Because post-radiation sarcomas arise in irradiated areas, standard resections are often difficult, and major surgery or amputation may be required.[5] Adjuvant radiation and chemotherapy have not been shown effective.[5] Postradiation sarcomas are considered radioresistant.[4] Chemotherapy alone has no influence on survival,[3] and adjuvant chemotherapy also has not been associated with significantly better results, possibly due to fibrosis in the irradiated area.[1]

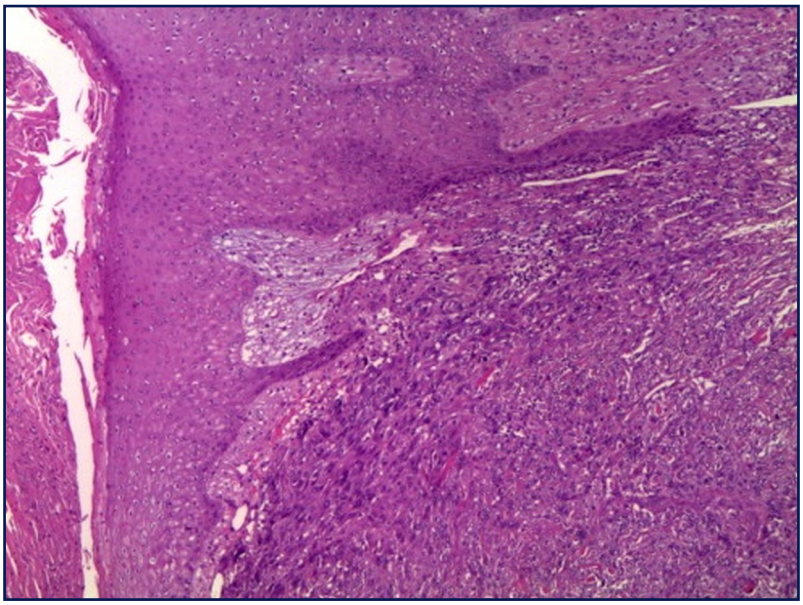

Figure 2

The histopathology revealed a malignant mesenchymal proliferation of spindle and poligonal cells with hyaline stroma, remarkable nuclear atypia, numerous mitoses and areas of necrosis. (Hematoxylin and Eosin x10).

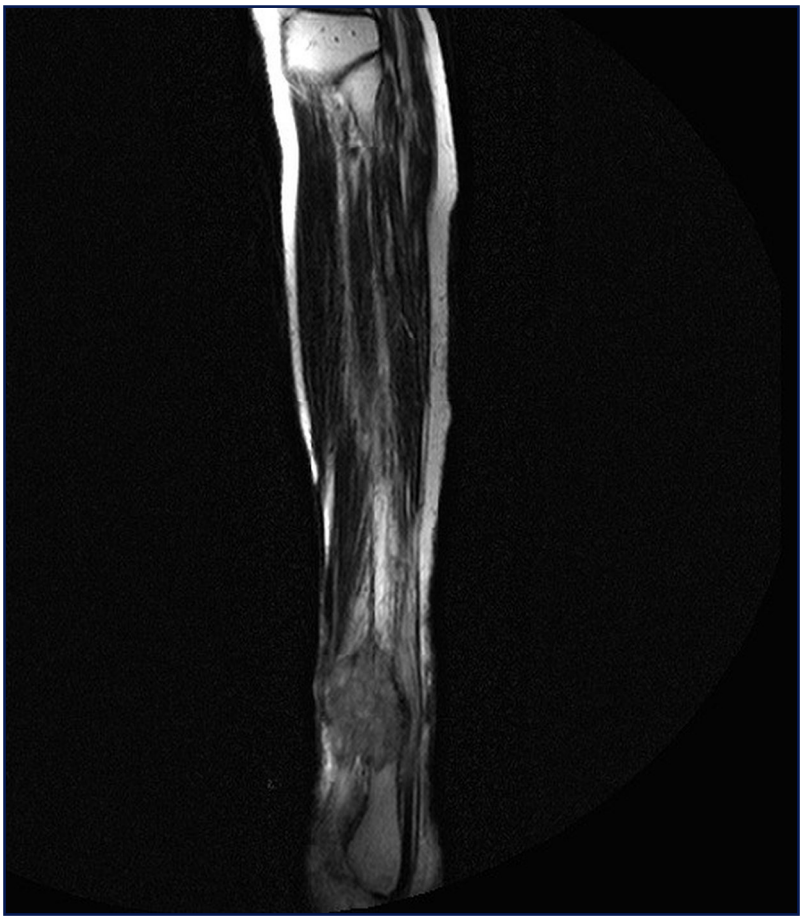

Figure 3

The MRI showed destruction of the diaphysis of the fibula and infiltration of the muscle compartments.

References

1. Mavrogenis AF, Pala E, Guerra G, Ruggieri P. Post-radiation sarcomas. Clinical outcome of 52 Patients. *J Surg Oncol*. 2012; 105: 570-576. PMID: 22012601.
2. Mandal S, Mandal AK. Malignant fibrous histiocytoma following radiation therapy and chemotherapy for Hodgkin's lymphoma. *Int J Clin Oncol*. 2007; 12: 52-55. PMID: 17380442.
3. Erel E, Vlachou E, Athanasiadou M, Hassan S, Chandrasekar CR, Peart F. Management of radiation-induced sarcomas in a tertiary referral centre: A review of 25 cases. *Breast*. 2010; 19: 424-427. PMID: 20542697.
4. Gladdy RA, Qin LX, Moraco N, Edgar MA, Antonescu CR, Alektiar KM, Brennan MF, Singer S. Do radiation-associated soft tissue sarcomas have the same prognosis as sporadic soft tissue sarcomas? *J Clin Oncol*. 2010; 28: 2064-2069. PMID: 20308666.
5. Cha C, Antonescu CR, Quan ML, Maru S, Brennan MF. Long-term results with resection of radiation-induced soft tissue sarcomas. *Ann Surg*. 2004; 239: 903-910. PMID: 15166970.