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CASE REPORT

Giant Dermatofibroma: Case Report and Review of the Literature

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Abstract. Dermatofibroma is a very frequent lesion that usually appears as a slowly growing nodule in the dermis, and preferentially involves the lower extremities of women. Several clinical variants have been described. Giant dermatofibroma has been defined as a rare variant of dermatofibroma measuring more than 5 cm that presents typical histological features and a benign biological behavior. We report the case of a 52-year-old man that presented a giant dermatofibroma with a diameter of 6 cm in the right shoulder and we review the few cases of this variant that have been described in the literature.

Key words: giant dermatofibroma, xanthomatized dermatofibroma, lipidized dermatofibroma.

DERMATOFIBROMA GIGANTE: DESCRIPCIÓN DE UN CASO Y REVISIÓN DE LA LITERATURA

Resumen. El dermatofibroma es una lesión muy frecuente que suele aparecer como un nódulo en dermis de lento crecimiento que afecta de forma predominante a las mujeres en los miembros inferiores. Se han descrito diferentes variedades clínicas. El dermatofibroma gigante se ha definido como una variante poco común de dermatofibroma de más de 5 cm que presenta las características histológicas típicas y un comportamiento biológico benigno. Presentamos el caso de un varón de 52 años que presentó un dermatofibroma gigante de 6 cm de diámetro en el hombro derecho y hacemos una revisión de los pocos casos de esta variedad descritos en la literatura.

Palabras clave: dermatofibroma gigante, dermatofibroma xantomatizado, dermatofibroma lipidizado.

Introduction

Dermatofibroma is a very common benign fibrohistiocytic lesion that usually appears in young women. The most frequent clinical presentation is a single asymptomatic reddish-brown nodule a few millimeters in diameter that is mainly found on the legs. It is usually moveable over the deeper layers at palpation and typically exhibits the dimple sign when compressed laterally. Nevertheless, there are other clinical variants that are summarized in Table 1.

Giant dermatofibroma is one of the most striking and uncommon clinical variants of dermatofibroma. Characteristically, it is a large exophytic lesion and a clinical diagnosis of dermatofibroma is not usually suspected.

We present the case of a 52-year-old man with a giant dermatofibroma on the right shoulder of 6 years evolution and review the cases described in the literature.

Table 1. Clinical Variants of Dermatofibroma

Atrophic dermatofibroma[1]
Atypical polypoid dermatofibroma[2]
Giant dermatofibroma
Subcutaneous fibrous histiocytoma[3]
Multinodular hemosiderotic dermatofibroma[4]
Subungual pleomorphic dermatofibroma[5]
Generalized eruptive histiocytoma[6]
Multiple palmoplantar histiocytoma[7]
Multiple clustered dermatofibroma[8]
Erosive dermatofibroma[9]
Ulcerated dermatofibroma[9]

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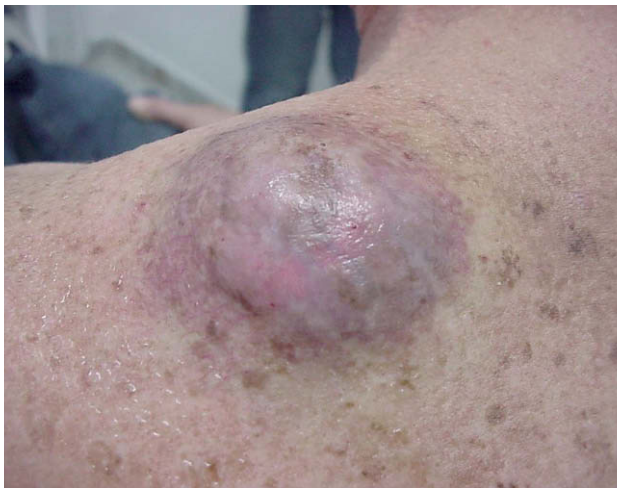

Figure 1. Tumorous lesion 6×4 cm on the right shoulder.

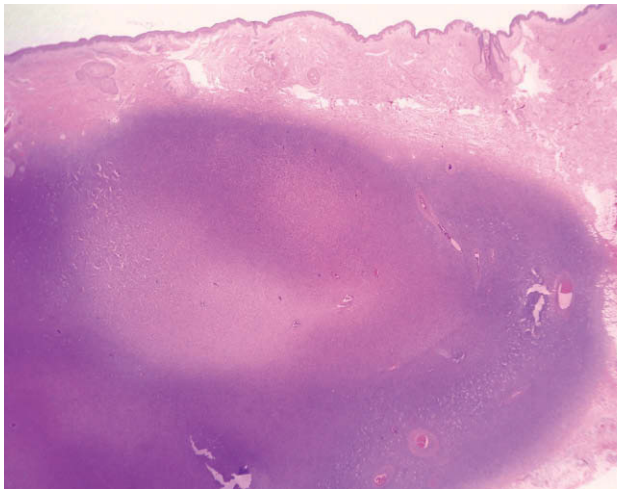

Figure 2. View of the lesion. (Hematoxylin-eosin staining).

Case Description

A 52-year-old man with a history of chronic alcohol use under treatment with Antabus (Odyssey Pharmaceuticals, East Hanover, New Jersey, USA) was admitted for a tumor-like lesion on his right shoulder that had been developing for 6 years. Apparently, 3 years earlier an epidermoid cyst had been suspected on clinical grounds and the lesion was incompletely removed by a surgeon and no histopathological study was performed. The lesion had undergone steady growth since then without causing any other problem. The patient could not recall any background of trauma in the area. On examination, an exophytic tumor measuring 6×4 cm in diameter was observed with a shiny reddish-violet surface, with reddish-brown and yellowish areas and some telangiectasia (Figure 1). The lesion had well-defined borders and was rubbery at palpation, without apparent adhesion to the deeper layers. Magnetic resonance imaging of the muscle revealed a tumor adjacent to the trapezius muscle but without signs of muscle invasion. The lesion was surgically excised under local anesthesia.

The histological study showed a nonencapsulated tumor with well-defined borders, located in the reticular dermis and subcutaneous cellular tissue (Figure 2). The lesion consisted of fibrohistiocytic cells forming areas of heterogeneous cellular density. Spindle and ovoid cells were intermingled at the edge of the lesion with swollen bundles and balls of eosinophilic collagen (Figure 3). The central area of the lesion was made up of larger polygonal xanthomatous cells with eccentric nuclei and lipid-filled cytoplasm that were separated from other cells by hyalinized collagen (Figure 4). Immunohistochemical study was positive for the common antigen marker of fibrous histiocytoma (CD68) and factor XIIIa, but negative for CD34.

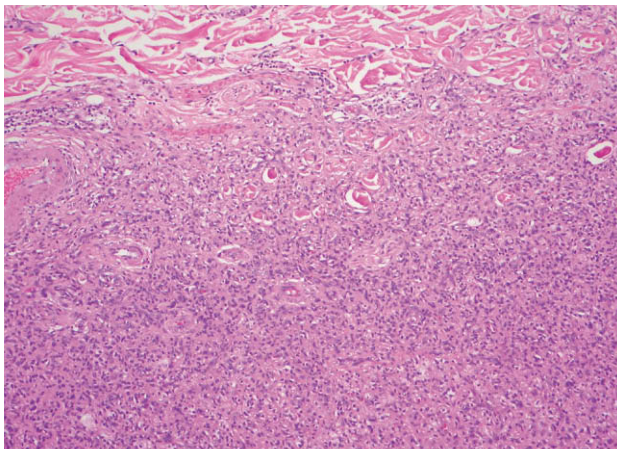

Figure 3. Periphery of the lesion with spindle cells intermingled with swollen collagen bundles. (Hematoxylin-eosin staining, ×100).

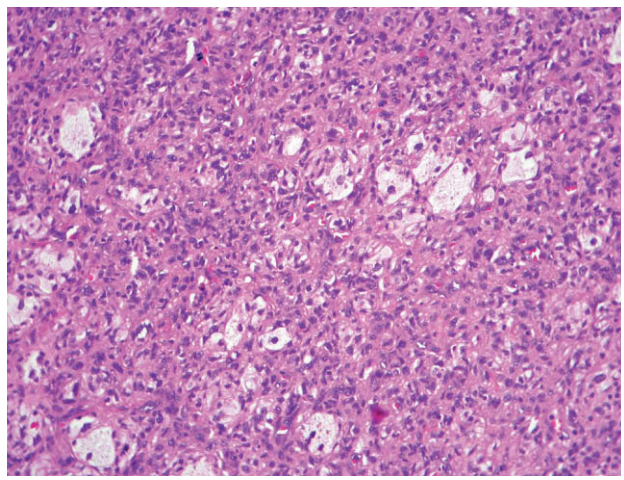

Figure 4. Presence of xanthomatous cells surrounded by a very dense stroma. (Hematoxylin-eosin staining, ×200).

Table 2. Review of Giant Dermatofibroma Reported in the Literature

Case No.	Author	Age	Sex	Size (cm)	Location	Histopathological Variant
1	Danckaert and Karassic[10]	52	M	3.5×3.5	Pretibial	Xanthomatized dermatofibroma
2	Torné and Umbert[11]	50	F	6×4	Calf	Dermatofibroma
3	Torné and Umbert	48	M	8×6.5	Calf	Dermatofibroma
4	Puig et al.[2]	57	M	10×2.5×1.5	Leg	Atypical dermatofibroma
5	Puig et al.	52	F	6	Thigh	Atypical dermatofibroma
6	Goodman et al.[12]	63	M	5×3.8	Dorsal surface of foot	Xanthomatized dermatofibroma
7	Requena et al.[13]	35	M	7	Ankle	Xanthomatized dermatofibroma
8	Requena et al.	83	F	5	Knee	Dermatofibroma
9	Requena et al.	55	F	5×4	Pretibial	Hemosiderotic dermatofibroma
10	Requena et al.	63	M	5×4	Dorsal surface of foot	Xanthomatized dermatofibroma
11	Requena et al.	43	M	3×5	Calf	Storiform dermatofibroma
12	Requena et al.	58	M	6	Foot	Xanthomatized dermatofibroma
13	Requena et al.	49	F	6×3×3	Leg	Storiform dermatofibroma
14	Requena et al.	65	M	5	Pretibial	Dermatofibroma
15	Omulecki et al.[10]	36	F	5.6	Back	Dermatofibroma
16	Iwata[15]	50	M	8	4th toe	Xanthomatized dermatofibroma
17	Numajiri et al.[16]	47	F	12×12×3	Back (lumbar)	Combined dermatofibroma
18	Goodman et al.[17]	64	F	3	Back (dorsal)	Monster cell dermatofibroma
19	Sehgal et al.[18]	34	M	30×25	Back (scapula)	Combined dermatofibroma
20	Micantonio et al.[19]	29	F	5.4×4.7	Back (lumbar)	Dermatofibroma
21	Kawakami et al.[20]	44	F	7.2×6	Thigh	Aneurysmal dermatofibroma
22	Case described in this article	52	M	6×4	Shoulder	Xanthomatized dermatofibroma

The histological findings were compatible with a xanthomatous dermatofibroma, which in turn was clinically compatible with a giant dermatofibroma due to its large size.

Discussion

Dermatofibroma is a very frequent dermal lesion of which several clinical variants have been described (Table 1). Giant dermatofibroma is a rare variant, with only 21 cases described in the literature (Table 2). The following characteristics have been accepted: *a)* size ≥5 cm; *b)* pedunculated; *c)* benign biological behavior despite its size; and *d)* the same histopathological characteristics as conventional dermatofibroma.[13]

They usually present as exophytic lesions, of which up to half are pedunculated. They are usually located on the legs, followed by the back. The clinical diagnosis of suspected giant dermatofibroma usually includes malignant lesions, such as dermatofibrosarcoma protuberans, basal cell carcinoma, epidermoid carcinoma, or sarcoma. However, histopathological study confirms the diagnosis by demonstrating the typical characteristics of dermatofibroma. Xanthomatous cells are common and present in up to half the cases. Giant dermatofibromas have also been reported with aneurysmal dermatofibroma,[20] monster-cell,[17] atypical,[21] lipidized,[15] and combined histological characteristics.[16,18]

One case has been described of giant dermatofibroma associated with diabetes mellitus and lipid necrobiosis,[14] and one case with onset during pregnancy.[19]

No recurrence has been reported after complete surgical excision of a giant dermatofibroma.

Dermatofibroma associated with xanthomatous or lipidized cells is a rare variant of dermatofibroma. It mainly appears on the legs, especially in the ankle area, usually in

men aged 50 to 70 years. The most characteristic histological features are the presence of numerous xanthomatous cells and stromal hyalinization, requiring the differential diagnosis of xanthoma or juvenile xanthogranuloma. Greater inflammatory infiltrate and the presence of multinucleated Touton giant cells may assist in the diagnosis of juvenile xanthogranuloma. These lesions, with predominantly xanthomatous cells, are larger than other dermatofibromas, having a median diameter of 2.5 cm in a published series of 22 cases.[15]

In conclusion, giant dermatofibroma is a clinical variant of dermatofibroma whose distinctive characteristics are their great size, frequent presence of xanthomatous cells, and benign biological behavior despite their clinical appearance and need for curative surgical excision.

Conflicts of interest

The authors declare no conflicts of interest.

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