



CASE REPORT

Malignant fibrous histiocytoma arising in a gouty tophus at the second metacarpophalangeal joint

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KEYWORDS

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Summary We report a case of concomitant malignant fibrous histiocytoma (MFH) and tophaceous deposit at the second metacarpophalangeal joint in a 76-year-old man. The patient underwent surgical treatment, local radiotherapy and adjuvant chemotherapy and was disease free at the time of his last examination. We use this case to highlight the features of this clinical entity, which has never previously been described in the surgical literature.

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Malignant fibrous histiocytoma (MFH) has been regarded as the most common soft tissue sarcoma (STS) of trunk and lower limb in adults.¹⁰ The retrospective review of McPhee et al.⁴ revealed MFH is the most frequent histological type in STS of the hand too and is the wrist the most common site, followed by palm and digit. Other series have reported different histopathologic frequencies between MFH, epithelioid sarcoma,¹ and synovial sarcoma.⁶

MFH was first described in the early 1960 and became widely accepted as a specific STS after publication of an article by Kempson and Kyriakos.²²

Case report

A 76-year-old right handed farmer¹¹ and dealer presented a metabolic disease 20 years ago with gouty tophus at metacarpophalangeal joints of hands and feet, presented 1 month history of swelling and rapid growing of tophaceous deposit at left second metacarpophalangeal joint. The patient denied any constitutional symptoms or history of trauma (Fig. 1).

At that moment hyperuricemia had been treated with allopurinol and clinical evaluation revealed another tophaceous deposit in third metacarpophalangeal joint of left hand.

Physical examination showed an enlarging and painful subcutaneous deposit at the second and third metacarpophalangeal joints with decreased range of motion. This mass was 5 cm in greatest dimension.

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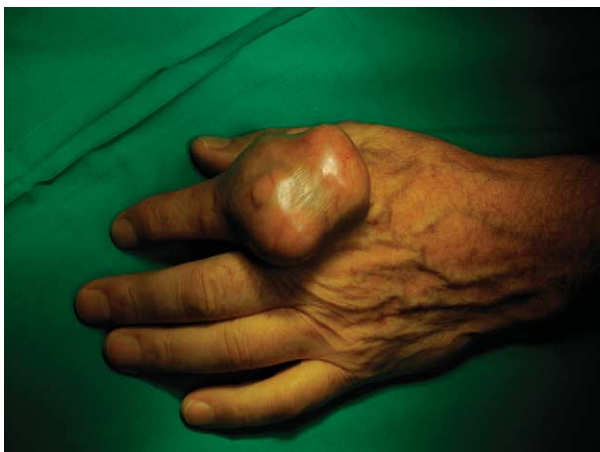


Figure 1 Preoperative appearance of malignant fibrous histiocytoma on dorsum of the right index finger.

Previous radiographs (Fig. 2) showed changes involving the second metacarpophalangeal joint compatible with gout arthritis deposit.

A computer tomography scan of the hand revealed several localised areas of cortical penetration in proximal phalangeal base of left second finger (Figs. 3 and 4).

With the patient under regional anaesthesia and tourniquet ischaemia marginal resection of tophus was performed. Pathologic examination revealed a high-grade primary malignant fibrous histiocytoma arising of a gouty tophus. After these findings we did a complete intracompartmental amputation of second and third rays at its metaphyseal flare with a margin of normal tissue through bone.^{2,3}

Immunohistochemical analysis of the tumour showed positive staining for vimentin, CD68 and



Figure 2 Preoperative X-rays of the index finger. Note localised areas of irregular cortical destruction in proximal phalangeal base and shadow of the soft-tissue mass.



Figure 3 Intraoperative resection of tumour.

lysozyme, negative for desmin, actin, CAM 5.2 and CD34.

The tumoral proliferation ratio measured with Ki-67 was 20%.

Histologically in the mass were numerous deposits of amorphous yellow material containing needle-like crystalline material and multinucleated giant cells surrounded many of these deposits (Fig. 5).

Tumour cells were spindle fibroblastic-fibrohistiocytic and collagen production is present between the spindle cells which were oriented in typical whorled or storiform pattern (Fig. 6).

Numerous atypical mitotic figures were present.

Since, the diagnosis the patient had a body tomographic scan, a T2 magnetic resonance of left hand and osseous gammagraphy, there was no evidence of metastatic disease or residual tumour.

Tumour staging IIB T1b N0 M0 grade III was done in accordance with the system of American Joint

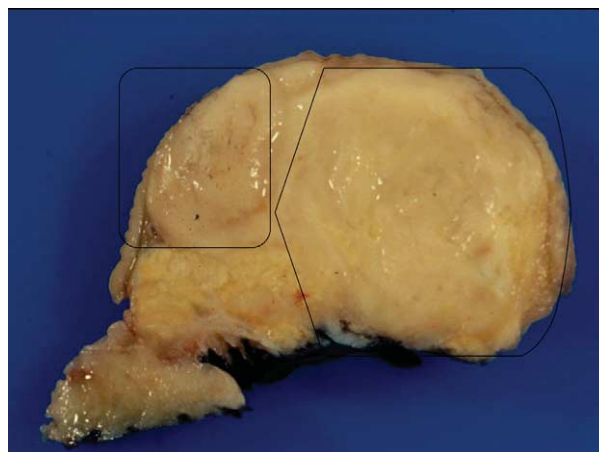


Figure 4 Macroscopic examination shown malignant fibrous histiocytoma at left side in continuity with the gouty tophus at right side.

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