

Soft Tissue Chondroma in the Finger: A Case Report and Review of the Literature

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Abstract

Soft tissue chondromas are rare. A fairly benign condition, it is an uncommon occurrence in the hand. It usually presents as an enlarging mass and local surgery is the treatment of choice. We report a case of a patient in our local population presenting with a soft tissue chondroma in a digit.

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Introduction

Chondromas are the most common bony tumours in the hand. However, soft tissue chondromas are relatively uncommon entities. The literature to date reveals chondroid nodules in soft tissues to be benign, rarely metastasizing. The upper extremity, particularly the fingers is the most common site of occurrence. The site of origin is still unclear but an association with tendon sheaths and synovium has been recognised. Histological diagnosis proves to be a challenge at times as a result of the histological atypia seen in these lesions.¹ Soft tissue chondromas have not been previously noted in local literature reviews and it is appropriate then that one should recognise this condition as a relevant differential diagnosis when reviewing patients presenting with lumps in the hand.

Case Report

A 31-year-old female presented with a lump over the left index finger for a duration of about 1 year. There was a progressive increase over this period in the size of the mass which was reported to be painless. No association with trauma was noted.

Clinical examination revealed a nodular mass over the dorso-ulnar aspect of the left index finger measuring about 1 cm (Fig. 1). It was non-tender on palpation. The flexor digitorum superficialis and profundus function

were intact. The neurovascular status of the affected finger was also normal. Clinically, the provisional diagnosis was that of villonodular synovitis.

Radiological examination showed a soft tissue mass adjacent to the middle phalanx, causing significant pressure erosion of the bone. No calcifications were seen (Fig. 2). The patient was admitted for excision biopsy. Intraoperatively, a nodular yellowish lesion over the volar aspect of the middle phalanx was noted. The mass was well encapsulated. It was removed in one piece measuring 1.5 x 1 x 1 cm.

Histological sections confirmed a lobulated cartilaginous mass with mild nuclear atypia. An occasional lacuna demonstrated binucleated cells. However, as has been previously emphasised, these features do not imply malignancy.² In the periphery of the cartilaginous lobules, the tumour cells were progressively more spindle in appearance (Fig. 3). The tumour had a thin, fibrous capsule as was noted intraoperatively.

The patient was followed up 2 weeks post surgery. The wound was clean and stitches were subsequently removed. There was no recurrence at 1-year follow-up.

Discussion

When assessing patients presenting with lumps in the fingers, a few differential diagnoses come to mind, namely villonodular synovitis, tophi, glomus tumours,

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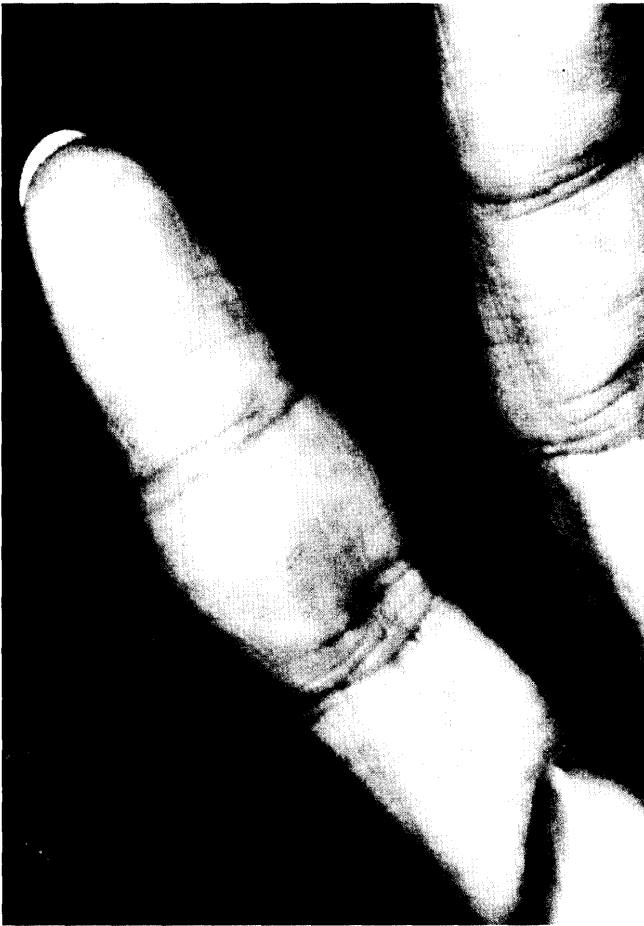


Fig. 1. Nodular mass over the dorso-ulnar aspect of the left index finger.

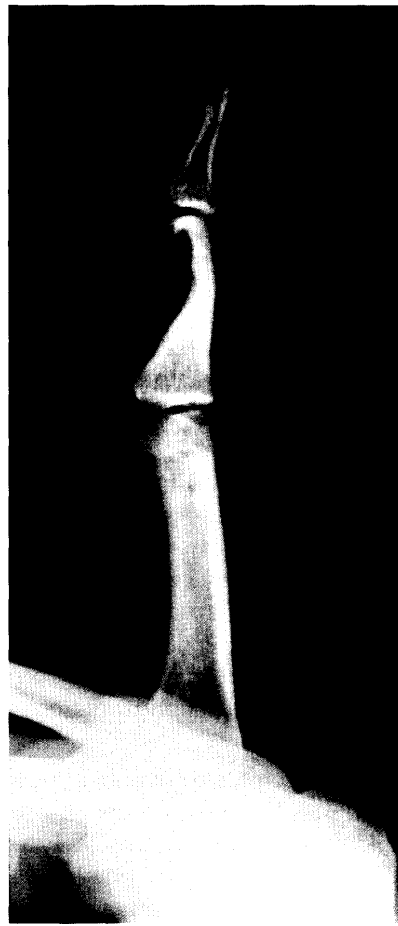


Fig. 2. Soft tissue mass adjacent to the middle phalanx.

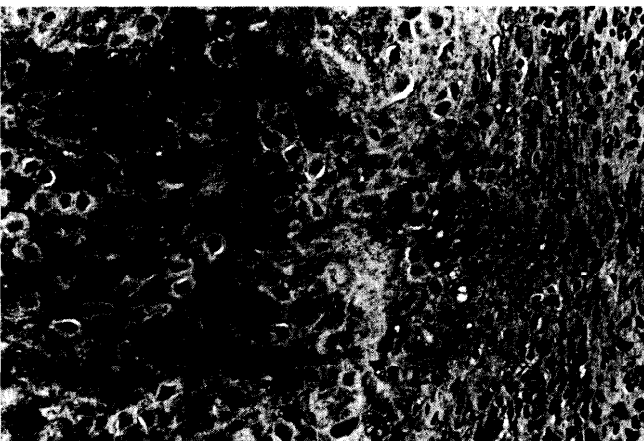


Fig. 3. Lobulated cartilaginous mass with a more spindled appearance in the periphery. There is mild nuclear atypia in some of the chondrocytes (H & E x330).

ganglions, implantation dermoids or even rheumatoid nodules. These common conditions must of course be excluded first before consideration can be given to rare tumours such as extraskeletal chondromas. To our knowledge, there are only two reports in the literature that deal with extraskeletal chondromas. The first was a series of cases published by Dahlin and Salvador in 1974.² The other was by Chung and Enzinger in 1978.³ In both

articles, the benign nature of these lesions and their predominance in the hands was agreed on. Of the 104 cases described by Chung and Enzinger, 51 occurred in the fingers alone out of 100 cases occurring in both upper and lower extremities. The remaining 4 were located in the trunk and head and neck.

Soft tissue chondromas present as small, painless, firm to hard lesions which enlarge slowly over an extended period of time. Some patients have presented with lesions present for over 5 to 10 years.⁴ Largely asymptomatic, they may occasionally present with some pain and tenderness, though this seems to be the exception rather than the norm: The lesions seem to occur with equal frequency in males and females.

There is also no obvious age predilection with such tumours seen in children as well as those in their fifties to seventies.⁵ Dahlin in 1974 reported a peak incidence around the sixth decade with 17 out of 68 cases reported having occurred then. As has been previously mentioned, the origin of these tumours is still unclear. There have been reports of association with tendon, tendon sheath, joint capsule, periosteum and even dermis.*

At the time of operation, the lesions themselves are often well encapsulated. Occasionally there is erosion

into the adjacent bone. They are usually single and lobulated; seldom exceeding 3 to 5 cm in size. They may be ovoid, rounded, nodular or even globular. They are grey to white and cartilaginous in consistency. Gross evidence of ossification and calcification may be present.

Radiological features are rather varied. Calcification is not a constant feature and when present, can be extremely variable in density.⁶ When in doubt about the close association of the lesion with the bone, a computed tomography scan is reported to be invaluable in confirming the extra-skeletal nature of the lesion. The presence of an unaltered cortex despite the evidence of pressure necrosis as in the reported case serves to indicate the benign nature of the lesion.⁷

Microscopic examination reveals hyaline cartilage to be the predominant component of these lesions. Ossification, fibrosis and myxoid change can commonly be found at the periphery of these lesions as well. Calcification is a varying feature, completely obscuring the underlying cartilage at times or just present as fine specks. None of these tumours were found to contain multiple chondromatous nodules as in synovial chondromatosis, an important differential diagnosis.

Recurrences after surgical excision are not uncommon and therefore meticulous dissection and excision are essential.* Local recurrence has been reported as likely to occur in 10% of cases. Involvement of tendon sheath, synovium or periosteum precludes the concurrent exci-

sion of such structures together with the tumour as well. It is agreed that local surgery is the treatment of choice despite the likelihood of recurrence. This is in view of the fact that the natural course is a benign one with the absence of any form of metastasis having been recorded anywhere in the literature. Thus patients can be reassured that despite the 1 in 10 chance of recurrence after surgery, these lesions are not known to become malignant.

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