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Research Paper

Soft Tissue Chondroma—Result of Surgery in a Local Hospital and Review of the Literature
軟組織軟骨瘤: 地區醫院之手術治療成效及文獻回顧

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ABSTRACT

Background/Purpose: This was a retrospective case series that aimed to study the clinical features and results of surgery for soft tissue chondroma, which is a benign extraskeletal cartilage tumour.
Methods: Ten patients with a histological diagnosis of soft tissue chondroma were recruited between 2001 and 2012. Tumours involved the hand and wrist ($n = 4$), foot ($n = 3$), popliteal fossa ($n = 2$), and deltoid ($n = 1$).
Results: The most common complaints were progressive enlargement of the size of the mass (50%) and pain (50%). Radiographs showed calcified soft tissue mass in 90% of cases. Marginal excision was performed. The mean follow-up duration was 27.6 months. There was one suspected recurrence case with a mass over the index finger. Surgical re-excision was performed and the second histological diagnosis was bizarre parosteal osteochondromatous proliferation. At final follow-up, nine out of ten cases were symptom free. One patient had residual finger joint stiffness and deformity.
Conclusion: The results of marginal excisions for soft tissue chondroma is satisfactory with low complication and recurrence rates.

中 文 摘 要

本文是一個回顧性的系列病例報告,目的為探討良性軟組織軟骨瘤的臨床表徵和手術的治療成效。我們收集了10宗於2001至2012年間在本醫院處理的軟組織軟骨瘤病例。軟組織軟骨瘤影響的位置包括手和手腕(4病例),足部(3病例),腘窩(2病例) 及三角肌(1病例)。最常見的病徵為腫瘤變大(50%)及疼痛(50%)。90% 的病例於X線片中顯示鈣化軟組織腫塊。所有病人接受了邊緣切除手術,病理診斷為軟組織軟骨瘤。平均隨訪時期為27.6個月。一位病人懷疑手指局部復發並再次接受切除手術,其病理診斷為奇異的骨膜旁骨軟骨性增生。在末次隨訪,該病人有手指關節僵硬和畸形的情況,其餘的人皆沒有徵狀。總結:邊緣切除軟組織軟骨瘤手術的結果是令人滿意的,並發症和復發率不高。

Introduction

Soft tissue chondroma is a rare disease entity that can demonstrate worrisome radiologic or histologic features confused with malignancy, and therefore may be treated with unnecessary radical surgery. Knowledge of this tumour, with its anatomic predilection and benign clinical course is necessary to provide suitable and reasonable treatment. Soft tissue chondroma, also called extraskeletal chondroma or chondroma of soft tissue parts, generally affects patients in midadult life.[1] It is a benign cartilaginous neoplasm that is found most frequently in hands and feet.[2–4] In this series 10 patients with soft tissue chondroma were retrospectively reviewed. The clinical presentations and results of surgery for this uncommon disease entity are discussed.

Methods

This is a retrospective case series of patients with a histological diagnosis of soft tissue chondroma with excision done in the Hong Kong East Cluster (Pamela Youde Nethersole Eastern Hospital and Ruttonjee Hospital) from 2001 to 2012. A total of 10 cases fulfilled the following criteria: (1) a cartilaginous proliferation arising

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within or situated in soft tissue identified histologically; (2) no clinical, radiologic, or histologic evidence to support a bony, intra-articular or bursal origin for the process; and (3) patient underwent surgical treatment for the lesion. Follow-up information was obtained by reviewing submitted medical records—records form the Clinical Management System of the Hospital Authority or through written communication with the patients or their clinicians. The clinical and radiological features and result of surgery were reviewed. The average follow up duration was 27.6 months (range, 4–120 months).

Results

Clinical findings

A total of 10 cases of soft tissue chondroma that received surgery in the study period were recruited with clinical details listed in Table 1. There were six male and four female patients, ranging in age from 15 years to 80 years (Figure 1). The average age was 50.4 years. The tumours involved the hand and wrist ($n = 4$), foot ($n = 3$), popliteal fossa ($n = 2$), and deltoid ($n = 1$; Figure 2). All cases presented with a mass. Five of them (50%) noticed progression of the size of the mass. Five of them (50%) felt mild pain over the mass. Physical examination showed a well-defined mass in nine cases (90%). One case (10%) had an ill-defined swelling over the extensor surface of the right index finger near the distal interphalangeal joint (DIPJ) level. Mobility of the mass was demonstrated in four cases (40%), while tenderness over the mass was noticed in three cases (30%). General daily function was not affected in any of the cases. The average and median duration of symptoms before consultation was 31 months and 24 months, respectively (range, 2–120 months). Trauma history was noted in two cases (20%). One patient had trauma over the left thumb 2 months prior to clinical attendance with a preoperative diagnosis of an epidermal cyst. Another patient had a left heel mass with a history of ankle sprain injury 2 years prior to clinical attendance. The working diagnosis was an old avulsion fracture from the insertion of Achilles tendon. The other preoperative diagnoses were nonspecific calcified masses in six patients, ganglion in one patient, and a mucous cyst in one patient.

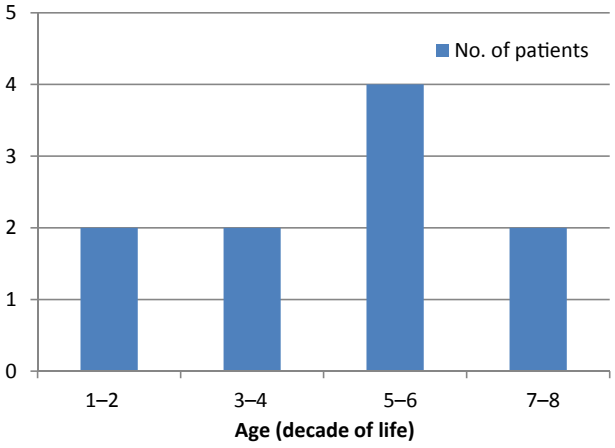

Figure 1. Age distribution for soft tissue chondroma ($N = 10$).

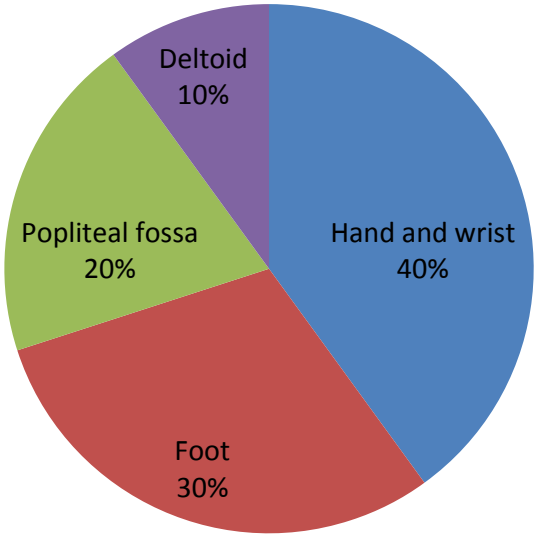

Figure 2. Anatomical distribution for soft tissue chondroma ($N = 10$).

Radiologic findings

All of the 10 cases had radiologic studies of the affected site prior to the operation. These consisted of radiographs ($n = 10$), magnetic resonance imaging (MRI; $n = 3$), ultrasound imaging ($n = 2$), and computerised tomography (CT; $n = 1$). X-ray showed the presence of calcified well-defined extraosseous soft tissue masses over the involved parts in nine cases (90%; Figures 3 and 4). Neither bone

Table 1
Clinical findings for 10 cases of soft tissue chondroma

Case no.	Patient sex/age (y)	Location	Preoperative diagnosis	Histology	Size (mm)	Follow-up (mo)	Recurrence
1	M/22	Lt foot dorsum	Ganglion	Soft tissue chondroma	Multiple fragments. Largest piece 4 mm	4	No
2	M/50	Pulp of Lt thumb	Epidermal cyst	Soft tissue chondroma	16 × 14 × 10	6	No
3	F/59	Rt deltoid	Nonspecific calcified mass	Soft tissue chondroma	25 × 20 × 10	6	No
4	F/61	Rt sole	Nonspecific calcified mass	Soft tissue chondroma	45 × 40 × 25	8	No
5	M/43	Rt popliteal fossa	Nonspecific calcified mass	Soft tissue chondroma	50 × 30 × 20	12	No
6	M/35	Rt heel	Avulsion fracture of os calcis	Soft tissue chondroma	15 × 15 × 5	18	No
7	F/67	Ulnar side of Rt wrist	Nonspecific calcified mass	Soft tissue chondroma	35 × 27 × 30	30	No
8	M/15	Lt popliteal fossa	Nonspecific calcified mass	Soft tissue chondroma	50 × 60 × 40	36	No
9	M/80	Rt hand dorsum near first metacarpal base	Nonspecific calcified mass	Soft tissue chondroma	20 × 15 × 7	36	No
10	F/72	Extensor surface of Rt index finger (DIPJ level)	Mucous cyst	First: soft tissue chondroma Second: bizarre parosteal osteochondromatous proliferation (Nora's lesion)	Multiple fragments. Largest piece 10 × 8 × 3	120	Suspected recurrence with re-excision done. Histology reviewed a different disease entity

DIPJ = distal interphalangeal joint; F = female; Lt = left; M = male; Rt = right.