Giant cell tumor of soft tissue of hand: simple but rare diagnosis, which is often missed

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Abstract

Giant cell tumor of soft tissue originally described in 1972 in two different series by Salm and Sissons is a rare entity, which is clinically and histopathologically indistinguishable from giant cell tumor of bone. Usually involve thigh, trunk, and lower extremities but rarely involve the hands. GCT-ST is a benign tumor, which can transform into malignant form and also has potential for recurrence and metastasis. We present an otherwise healthy, middle age female who originally presented with swellings on her left finger was diagnosed with giant cell tumor of soft tissue hand.

Introduction

Giant cell tumor of soft tissue (GCT-ST) originally described in 1972 in 2 different series by Salm and Sissons[1] is a rare entity, which is clinically and histopathologically indistinguishable from giant cell tumor of bone. Usually involve thigh, trunk, and lower extremities but rarely involve the hands.[2] GCT-ST is a benign tumor, which can transform into malignant form and also has potential for recurrence and rarely metastasis.[3] We present an otherwise healthy, 53 year-old African American female who originally presented with chronic swellings of her left finger was diagnosed with giant cell tumor of the hand, which is rare disease.

Case Report

A 53-year-old lady presented in outpatient clinic with complains of swellings on the dorsum of her left ring finger. Accordingly to the patient, she noticed swellings after motor vehicle injury two years ago, when she hit her finger against the wall; growth was slow and gradual but rapidly increasing in size from few months recently interfering with hand movement and daily activities.

On examination patient has a markedly loculated lesions on the left ring finger from the proximal interphalangeal joint to distal interphalangeal joint not adherent to bony structure and no evidence of joint effusion. An x-ray show soft tissue swelling seen adjacent to the middle phalanx of the fourth digit with no associated osseous erosion or radiopaque foreign body (Figure 1). Initial thought was ganglion cyst also suspected aneurismal bone cyst, chondromyxoid fibroma (rare) infectious cyst. There was no history of fever erythema weight loss or renal failure.

Laboratory work-up showed normal serum levels of calcium, phosphate and alkaline phosphatase. The patient was referred to a hand surgeon who found four nodules: the largest one was in middle of the middle phalanx and none was attached with underlying bone. Pathology report showed well circumscribed, non-encapsulated and multinodular lesion, composed of round to spindle-shaped cells intimately admixed with scattered osteoclast-like multinucleated giant cells in a background of small, ovoid, mono-nuclear stromal cells, consistent with giant cell tumor of soft tissue (Figure 2). Histopathologically, GCT-ST should be separated from other tumors that show prominent giant cell component such as giant cell tumor of tendon sheath, extra skeletal osteosarcoma, non-ossifying fibroma aneurismal bone cyst.[4,5]

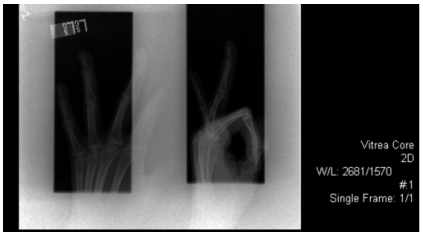

Figure 1. Ski gram of left hand.

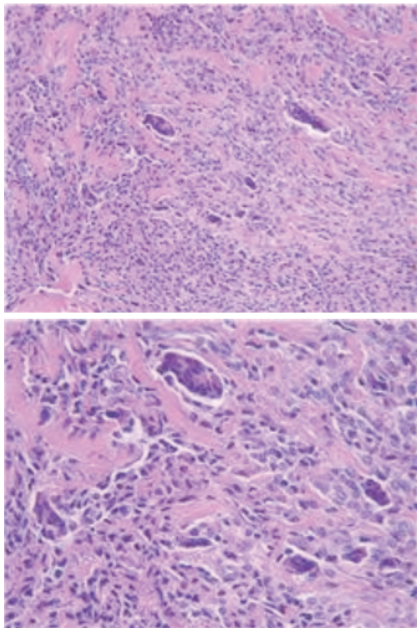

Figure 2. Microscopic examination shows a mixture of mononuclear round to oval cells and osteoclast-like multinucleated giant cells.

Conclusions

This case illustrates the detailed diagnostic evaluation and the need for high suspicion by the primary physicians to consider giant cell tumor of soft tissue as differential diagnosis for a lumps in hand because of the propensity of this tumor to be malignant and in some cases metastasize to lung, which is really catastrophic. Patients should be highly encouraged to undergo surgical resection, as this often is the only modality of therapy with curative intent and/or the malignant component. Early diagnosis and aggressive follow-up are important to help improving patient outcome.

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