

A rare case of giant cell tumour of phalanx of great toe

Abstract

Giant cell tumors are benign tumors. They mostly occur after skeletal maturity. The long bones are commonly involved. Tumors involving the phalangeal bone of foot are very uncommon. The author reports a case of giant cell tumour involving the distal phalanx of great toe. A 30year old male has presented with swelling of great toe of right foot. X-ray showed an osteolytic lesion in distal phalanx of great toe. We did a En-block resection of phalanx. Histopathology showed Giant cell tumor. There was no recurrence of tumor on follow up. Giant cell tumor in such a location is usually aggressive and needs regular follow-up to detect local recurrence.

Keywords: giant cell tumor, foot, interphalangeal joint, tumor, lesion, cortex, engorged veins, musculo skeletal system

Volume 5 Issue 2 - 2016

Vijaya Kumar Sadha Nandham

Gokulam ortho hospital, India

Correspondence: Vijaya Kumar Sadha nandham, Professor of orthopaedic surgery, Gokulam ortho hospital, India, Email svijayakumar71@yahoo.com

Received: September 14, 2016 | **Published:** November 25, 2016

Introduction

Giant cell tumor of bone is a rare benign bone tumour accounting for approximately 4% of all primary neoplasm. It typically involves the long bones in young adults. Tumor involving the phalanges of foot is very rare. Only a few cases have been reported.^{1,2} In this location it occurs more often in young female population and it appears to present a more aggressive behavior than in other location. We present a case of giant cell tumor of distal phalanx of great toe.

Case report

A 30year old male had presented to us with pain and swelling of right big toe of one year duration. The swelling was gradually increasing in size. The swelling was associated with pain. There was no other swelling anywhere else in the body. No constitutional symptoms. On examination there was diffuse swelling of the great toe. Skin was stretched and shiny. There were no engorged veins. The swelling was variable in consistency. The movement of interphalangeal joint was restricted. The x-ray showed an osteolytic lesion involving the distal phalanx. The cortex was eroded and lesion was extending into the soft tissue. The routine blood investigations were normal. Serum alkaline phosphatase level was normal. We had a differential diagnosis of giant cell tumor and bone cyst. We had done excision of the distal phalanx. Since the lesion was extending into the soft tissue we had planned for a radical excision. The biopsy showed giant cell tumor of the distal phalanx. Regular follow up of the patient showed no recurrence of the tumor.

Discussion

Giant cell tumors usually occur in third and fourth decade of life, the most common area involved is around knee joint (70%). Distal radius is the second most common location. The foot is a rare site, accounting for less than 1% of all tumors of musculo skeletal system. In foot approximately 50% of giant cell tumors are seen in the talus. Literature showed only three other case reports of giant cell tumor of phalangeal bone of foot.¹⁻³ Giant cell tumors of bones in foot are known to occur in a younger age group more often in females and they

tend to have more aggressive behavior both clinical and radiological than in other location.^{4,5} They usually present with pain and swelling of the foot. Symptoms are rapidly progressive and the diagnosis is delayed as symptoms may usually be attributed to non specific foot pathology.

In long tubular bones, radiological differential diagnosis includes chondroblastoma, aneurysmal bone cyst, and non ossifying fibroma.⁶⁻⁸ When giant cell tumor occur in long bone X-ray shows a lytic lesion centered in epiphysis but involving the metaphysis and extending at least in part to adjacent articular cortex. No periosteal reaction is appreciated unless a fracture is present. The primary foot lesions consisted mostly of purely lytic defects of bone with some degree of trabeculation which is usually minimal. Some were purely lytic and no lesion was sclerotic. The tumors are aggressive. Most of them were expansile. The cortex showed areas of destruction in most cases. Like long bones no periosteal reaction were observed in the giant cell tumor of the foot.⁷ It is important to differentiate Histologically these tumors from other giant cell containing lesions of foot such as giant cell reparative granuloma, aneurysmal bone cyst and chondroblastoma. The histological features of giant cell tumor are the giant cell component having a uniform distribution in a mono nuclear round oval stromal cell background. Microscopic appearance of our specimen showed classic finding of giant cell tumour. The histopathological finding seen were a tumor composed to numerous uniformly distributed osteoclastic type giant cells and intervening cellular stroma showing mononuclear spindle cells.

The standard treatment of this tumor has traditionally been intralesional excision, aggressive curettage with or without bone grafting. The recurrence rates are high after this procedure. The recurrence of tumor has been reduced, by using chemical or physical means of inducing necrosis of any remaining neoplastic tissue. The other surgical option is en-bloc resection of involved bone segment. We choose the last option for this patient because of aggressive features of the lesion. Giant cell tumour involving the phalanx in foot is very rare. These are aggressively growing tumors. Giant cell tumor in such a location need regular follow to detect local recurrence (Figure 1).



Figure 1 Giant cell tumour of phalanx of great toe.

Acknowledgements

None.

Conflict of interest

The author declares no conflict of interest.

References

1. Alvarez Ramos A, Valverde Garcia JA, Garcia Alonso MG. Giant cell tumor of the foot phalanges in children: a case report. *J Pediatr Orthop B*. 1999;8(2):132–135.
2. Bapat MR, Narlawar RS, Pimple MK, et al. Giant cell tumor of talar body. *J Postgrad Med*. 2000;46(2):110–111.
3. Baker JF, Perera A, Kiely PD, et al. Giant cell tumour in the foot of a skeletally immature girl: a case report. *J Orthop Surg (Hong Kong)*. 2009;17(2):248–250.
4. Fujisawa Y, Takahashi T, Kawachi Y, et al. Giant cell tumor of the distal phalanx of the foot. *Eur J Dermatol*. 2006;16(2):204–205.
5. Wold LE, Swee RG. Giant cell tumor of the small bones of the hands & feet. *Semin Diagn Pathol*. 1984;1(3):173–184.
6. Misra US, Dhaon BK, Gupta SC, et al. Giant cell tumour of proximal phalanx of great toe. *J Indian Med Assoc*. 1997;69(9):204–205.
7. Biscaglia R, Bacchini P, Bertoni F. Giant cell tumor of the bones of the hand and foot. *Cancer*. 2000;88(9):2022–2032.
8. Unni KK, Dahlini. Bone tumour: General Aspects and Data on 11087 cases. 5th ed. Raven, Philadelphia: Lippincott; 1996. p. 263–283.