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A case study of management of giant cell tumour of Proximal Fibula

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Abstract

Introduction: Giant cell tumour is a locally aggressive benign tumour of bone which is an unusual neoplasm that accounts 4% of all primary tumours of bone and about 10% of malignant primary bone tumours. GCTs are usually found in skeletally mature individuals. Peak of this is generally in 3rd decade. Tumors of the fibula comprised only 2.5% of primary bone lesions. Patients with aggressive benign tumors in the proximal fibula may require en bloc resection. Peroneal nerve function, knee stability, and recurrence are substantial concerns with these resections. We are reporting a case of Giant Cell Tumour of the proximal Fibula managed with curettage and excision with 5% phenol.

Case presentation: A 25-year-old female presented with complaints of pain and swelling and deformity below right knee since 1 year. Pain was in right lower limb over fibular region which was insidious in onset Dull aching and progressive in nature with no radiation no diurnal variation 1 month after that she noticed swelling over proximal leg which was initially of pea size and gradually progressed to size of approx. 10x10 cm. There was no history of trauma. Surrounding skin appeared reddish brown. On palpation no local raise of temperature but local tenderness present. X rays and all blood investigations were done Histopathological report suggestive of giant cell tumour of bone benign type with plenty of giant cell, plenty of eosinophils and round oval stromal cells.

Magnetic resonance imaging-large expansile lytic lesion noted in fibular head with lobulated margins and few internal cystic areas noted mass is displacing neurovascular bundles but no invasion favours possibility of ABC? GCT.

After detail examinations and investigations and written informed consent patient was posted for surgery for excision of tumour. Spinal anaesthesia was given in supine position for surgery in all aseptic precautions and with haemostasis achieved, excision was done by the specimen was sent to histopathology for further examination. A thorough wash was given, and the defect was treated with 5% phenol. The tumour was sent for histopathological examination which confirmed the diagnosis of GCT. Histopathology of the tissue showed benign type of giant cell tumour.

Conclusion: Management of Giant cell tumor of fibula with Excision with curettage with, use of 5% phenol for GCT of bone achieved good functional outcome and a low recurrence rate.

Keywords: Giant cell tumour, Recurrence, proximal fibula, malignant mass

Introduction

Giant cell tumors are generally of benign nature. Most of these involve proximal part of long bone i.e proximal Tibia proximal fibula, Occurrence of this type of tumor is peak in 3rd Decade i.e 30 to 40 yrs of age. Very few of these tumors are local invasive in nature, Detail investigations like FNAC and Histopathology are required when palpable swelling is observed in such cases. If tumor is malignant it requires en block resection with or without radiotherapy and Benign tumors can be managed with Excision completely or Excision with Curettage with 5% phenol or simple Curettage. 5% phenol is required agent which plays important role in Curettage and with less Recurrence rate. In this case we have managed a case of giant cell tumor of proximal fibula with Excision along with 5% phenol for Curettage. This showed good Postoperative results.

Case Report

25-year-old Young Lady of our institute came with chief complaints of pain and swelling and deformity below right knee. Swelling first noticed 1 year back. Patient also gave history of

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pain in lower limb over fibular region which was insidious in onset dull aching in nature and was progressive in nature. Pain was not radiating and was no variation with day and night. 1 month after that she noticed swelling over proximal leg which was initially of pea size and gradually progressed to size of approx. 10x10 cm? There was no history of trauma. Surrounding skin appeared reddish brown. On palpation local raise of temperature was absent but tenderness was present. Detail history was taken and Detail primary investigations were done. X-ray was done (Figure 1 and 2)



Fig 1: X-ray



Fig 2: X-ray

We present this of GCT in the proximal fibula After detail examinations and investigations and written informed consent patient was posted for surgery. After all pre anesthesia evaluation patient was taken for excision of tumor and curettage with 5 % phenol. Spinal anesthesia was given in supine position for surgery in all aseptic precautions and with hemostasis achieved. Incision was taken on proximal leg on lateral aspect soft tissue dissection done (Figure 3 and 4) and tumor was exposed thorough examination was done and marking of Maximum extension of tumor done excision was done and remaining part was Curated with installing 5% phenol inside margins Thorough curettage was done and mass which was excised as specimen was sent to histopathology for further examination. A thorough wash was given with Betadine Normal saline and H_2O_2 . Closure was done in layers and patient was sent postoperative room post-operative x-ray was done (Figure 5 and 6). After discharge patient was asked to follow up regularly for 1 month 3 months and 6 months. The specimen was sent for histopathological examination which confirmed the diagnosis of GCT of Benign Nature. Patient was asked to follow up 3rd, 6th month and 18 months of surgery showed that there was significant improvement in symptoms. Patient is able to do daily activities without discomfort.



Fig 3: Proximal leg on lateral aspect soft tissue dissection



Fig 4: Proximal leg on lateral aspect soft tissue dissection



Fig 5: Post-operative x-ray



Fig 6: Post-operative x-ray

Discussion

Giant cell tumors are neoplasms which are histologically benign in nature but clinically show local aggressive nature and recurrence. They have been treated successfully with excision and cementing or sandwich bone grafting without recurrence. GCT represents approximately 5% of all primary bone tumors^[2, 3]. More than half of these lesions occur in the third and fourth decades of life^[3]. GCTs are benign tumors with potential for aggressive behavior and capacity to metastasize. Although considered to be benign tumors of bone, GCT has a relatively high recurrence rate. Metastases occur in 1% of patients with GCT and some earlier studies have correlated the incidence of metastases with aggressive growth and local recurrence^[4, 5]. 90% of GCT exhibits the typical epiphyseal location^[6, 7]. The most common locations, in decreasing order, are the distal femur, the proximal tibia and fibula, the distal radius, and the sacrum^[8]. Involvement of the foot and ankle is rare and comprises <4% of all giant cell tumors (GCT)^[9].

Clinical message

Giant cell tumors Of Benign Nature Involving proximal Fibula can be cautiously managed with Simple curettage with 5% phenol before excision But Confirm histopathology of tumor should be Known

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