

LIMB SALVAGE SURGERY IN FUNGATING GCT: A REPORT OF 3 CASES

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Introduction:

- WHO defines Giant cell tumor as a benign locally aggressive neoplasm with metastasizing capacity and aggressive behavior, these tumors uncommonly present with fungation.
- Radical amputation procedures are still a widely practiced treatment for massive tumors ulcerating the skin, leading to high morbidity and severe disability
- Little or no literature of experience are available currently on limb salvage surgeries in such cases of fungating tumors
- We report a series of 3 cases with fungating limb masses with histopathological diagnosis of Giant cell tumor undergoing limb saving surgical procedures

Case 1

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- 21-year-old female with complaint of swelling in her left knee for 8-month duration, clinically measuring 12cm x 5cm initially
- Core biopsy was done to confirm the diagnosis of GCT. But, patient was lost to follow up for 4 months and came back with increased size in mass and ulceration of skin lateral to knee joint

- Wide resection of tumor with endoprosthesis application was done
- At follow up of 2 years, patient has good functional results with flexion of 90 degrees and carrying her routine activities comfortably

Preoperative clinical photograph showing fungating mass of left knee with ↓

Postoperative AP and Lateral X-Ray of left knee with distal femoral endoprosthesis →

Serial postoperative photographs of gain in knee range of movement and a functional limb ↓

Initial radiograph showing eccentric lytic sclerotic lesion arising from left distal femur

Anteroposterior and lateral radiograph after months of loss to follow up showing large destructive lesion with extensive soft tissue component and pathological fracture of distal femur →

Case 2

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- A 28-year-old male patient presented with bleeding mass from left distal leg which developed following curettage elsewhere for a suspected Giant cell tumor of left distal fibula with 8x8 cm mass with bleeding area over lateral malleolus
- Imaging showed lytic destructive lesion of distal fibula extending into soft tissue on x-ray
- Limb salvage procedure was done by wide resection of tumor



Preoperative clinical photograph of fungating mass over left ankle arising from distal fibula



AP and Lateral X-ray of left ankle showing lytic destructive lesion of left distal fibula



Post operative radiograph of left ankle AP and Lateral view and with AP and oblique view of left foot showing resected distal fibula and soft tissue reconstructed using mesh fixed into distal tibia, talus and calcaneum

- Mesh repair was done to stabilize ankle with screws placed in distal tibia, talus and calcaneum
- At 1 year follow up, patient is able to walk full weight bearing unassisted with satisfactory ankle ROM



Post operative photograph of left ankle showing healthy surgical scar with complete recovery of range of movement and functional ability

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Case 3

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- A 38-year-old male having swelling in his left wrist since 3 years for which he was advised amputation below the level of his elbow elsewhere
- On presentation, physical examination revealed dumbbell shaped mass measuring 12 x 10 centimeter over left wrist with extensively stretched skin and fungation over dorsal surface
- Centralization of ulna with wrist arthrodesis plate to fuse the wrist joint was done
- Due to uncontrolled type 2 diabetes mellitus, patient developed deep surgical site infection in early post-operative period
- Plate removal with thorough surgical debridement was done and stabilized with k-wire

Pre-op Radiograph of left wrist showing expansile lytic lesion arising from distal radius with typical soap bubble appearance



Clinical radiograph of huge dumbbell shaped mass in from left wrist with fungating and bleeding surface with areas of necrosis



Immediate post operative X-ray(Left) showing centralization of ulna and arthrodesis of wrist joint with arthrodesis plate

Radiograph(Right) following debridement and plate removal with k-wire stabilization for deep surgical site infection



Discussion

- Even in current practice radical procedures leading to removal of limbs have been main consensus of management in fungating, neglected and large tumors
- Some of the main reasons for patients to present in advanced stages are neglect by the patient and family, low socio-economic status, unawareness, lack of access to medical facilities and even misdiagnosis sometimes, leading to enormous rise in morbidity and mortality
- The decision to perform limb salvage surgery was taken in all the three patients in our report because the predominant neurovascular bundle was uninvolved by the tumor and the patients were unwilling for amputation

Conclusion

- The ideal treatment solution for a fungating limb mass is still debatable with huge spectrum of surgical options available, the principle of treatment is to eradicate the tumor and preserve function of limb
- Since GCT is a benign tumor, even if the tumor has to recur locally in the soft tissues, it can be safely managed with wide excision without any increased risk of mortality
- Amputation should be reserved and considered only when necessary to achieve palliation of debilitating symptoms as it results in severe disability of function, hugely affecting the livelihood and quality of life