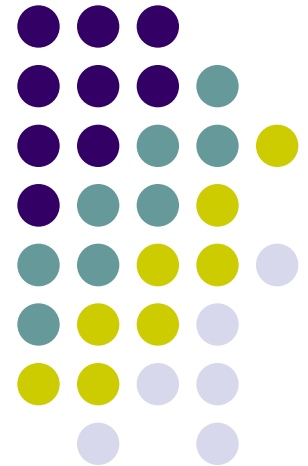


# Effectiveness of intravenous Bisphosphonates in treatment of local recurrences of giant cell tumors (GCT)

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# Effectiveness of intravenous Bisphosphonates in treatment of local recurrences giant cell tumors



## *Background:*

- GCT of bone - a benign locally aggressive tumor
- Local recurrence following intralesional excision of GCT of bone continues to remain a problem
- Use of Bisphosphonates as anti-osteoclastic agent in management of osteolytic bone metastases is well accepted

## *Aim:*

Retrospectively demonstrate administration of Bisphosphonates as an adjuvant can control aggressive local recurrence of GCT & prevent wide resections of bones or amputations

# Effectiveness of intravenous Bisphosphonates in treatment of local recurrences giant cell tumors



## *Bisphosphonates Background:*

In breast cancer & myeloma Bisphosphonates treatment is standard of care due to successful reduction & inhibition of:

- Bone resorption (osteoclast-mediated)
- Tumor associated hypercalcaemia
- Bone pain
- Tumor angiogenesis

Very few publications of Bisphosphonates treatment in GCT, showing:

- Bisphosphonates prevents bone resorption by inhibiting osteoclast activity & promoting osteoclast apoptosis (in Vitro & in Vivo)
- Stromal cells in GCT interact in an autocrine manner to produce tumoral osteoclastogenesis & bone resorption. This autocrine regulation can be disrupted by Bisphosphonates targeted treatment

# Effectiveness of intravenous Bisphosphonates in treatment of local recurrences giant cell tumors



## *Method:*

- 2004-2010 retrospective study
- 6 patients diagnosed with aggressive local recurrence
- Primary tumor treated by surgical curettage & cryoablation followed by cementation or biological reconstruction
- Tumor location: 5 distal radius & 1 proximal tibia
- Patients were treated by intravenous Bisphosphonates followed by clinical & radiological assessments

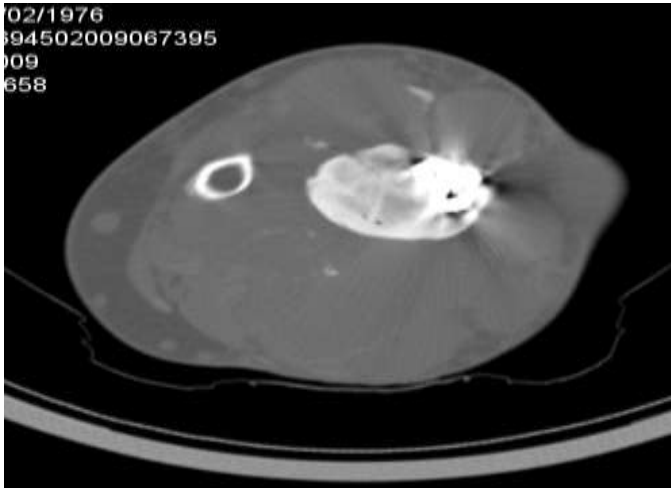
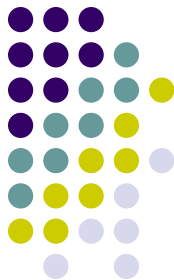
# Effectiveness of intravenous Bisphosphonates in treatment of local recurrences giant cell tumors



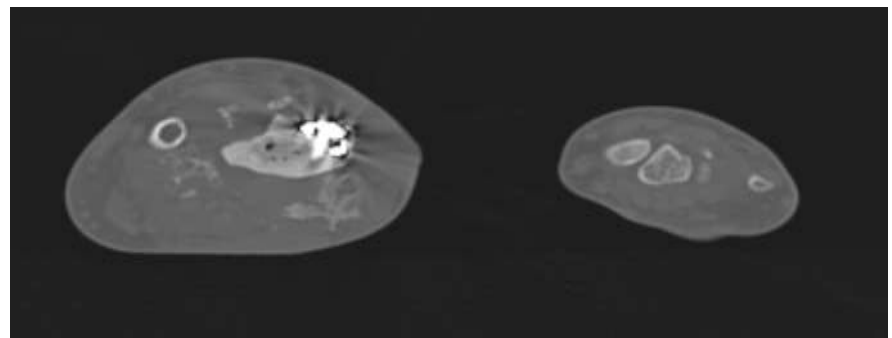
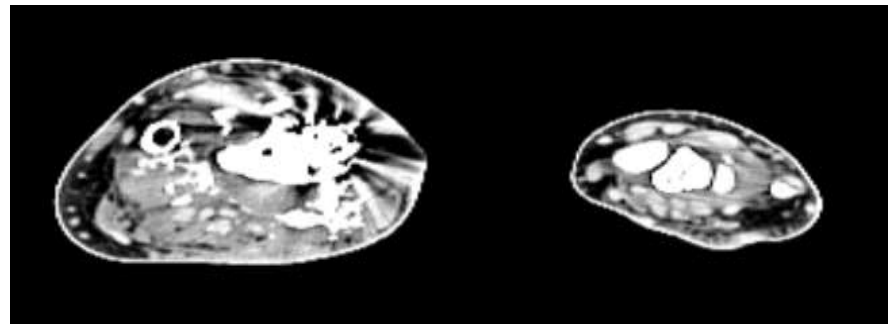
## ***Results:***

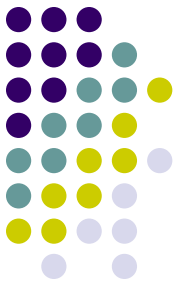
- Average follow-up of 42 months (12-72 months)
- All patients showed good response to treatment:
  - ▶ *Lesions calcified gradually (x-rays & CT scans)*
  - ▶ *Reduction in size of soft tissue components*
  - ▶ *Patient reported relief of pain & improvement of affected limb & joint*
- All patients did not report any untoward effects

# Patient I – Before Treatment

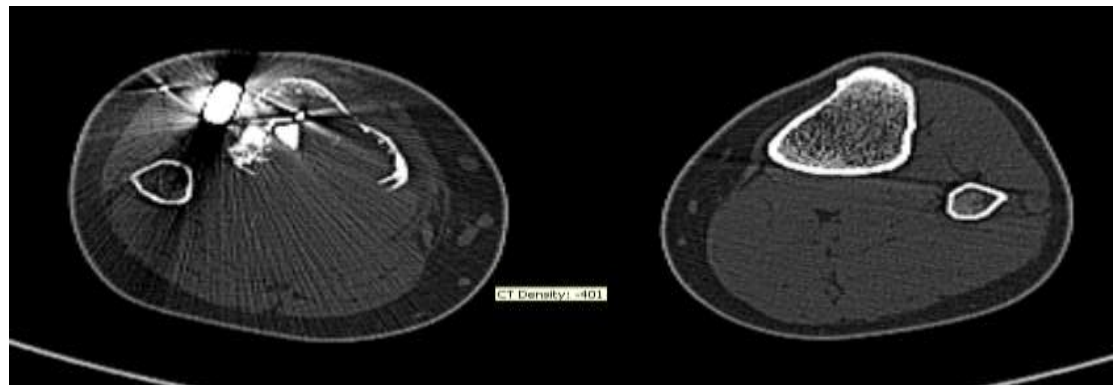
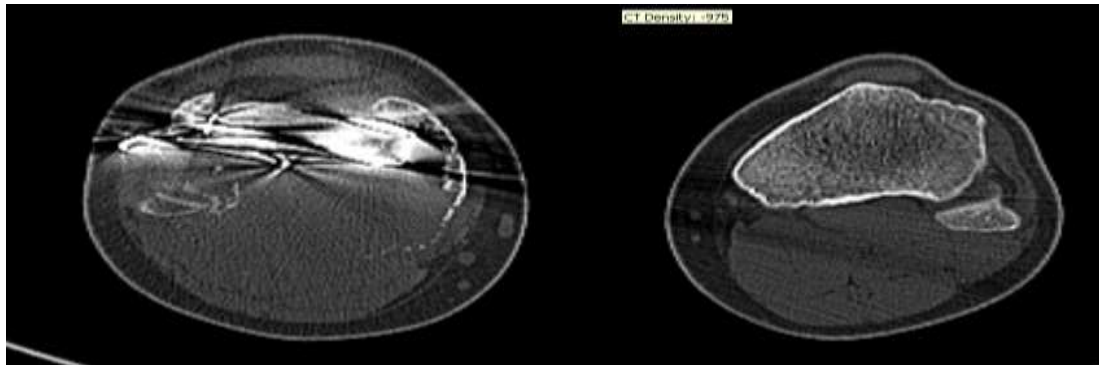
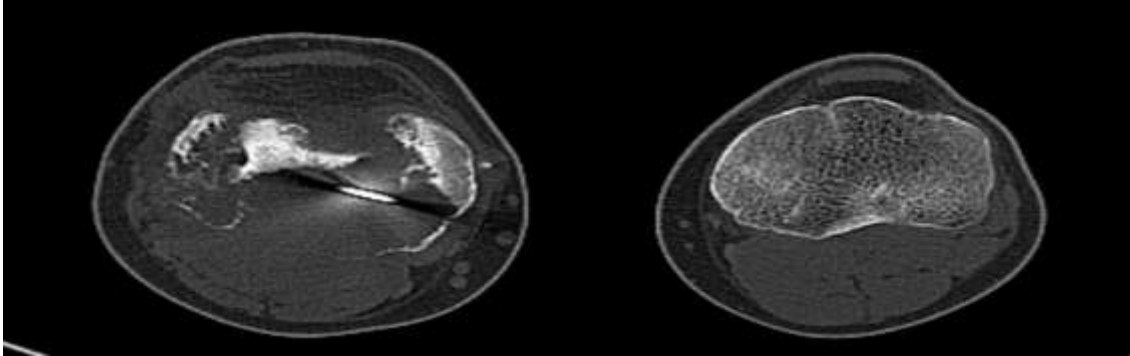


# Patient I After Treatment

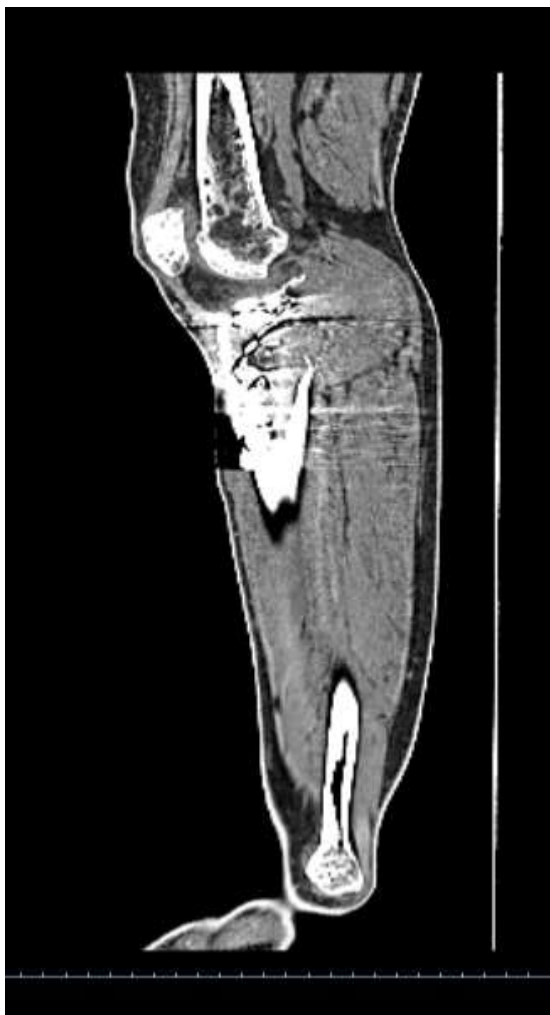




# Patient II – Before Treatment



# Patient II – Before Treatment



# Patient II – After Treatment



# Effectiveness of intravenous Bisphosphonates in treatment of local recurrences giant cell tumors



## ***Conclusion:***

Bisphosphonates treatment is found to be an effective treatment for local control of aggressive local recurrence of GCT of the extremities and can therefore be a good alternative to wide resections of bone and complicated reconstructions