15 YR/M with progressively worsening left shoulder pain

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POST CONTRAST
GROSS PATHOLOGY
OSTEOBLASTOMA

• Rare primary benign bone tumor (1-3 %).

• Can be locally aggressive, typically involves the axial skeleton.

• Insidious onset of dull pain, worse at night with poor response to analgesics vs Osteoid Osteoma.
**IMAGING**

Plain films: Predominantly lytic with well defined thin sclerotic margin.

- Expansile with internal calcification.
- Associated soft tissue mass.

CT: Concordance with Plain film imaging findings, better depiction of internal matrix mineralization.

MRI:

- T1: typically hypo to isointense on T1 with areas of decreased intensity that correspond to foci of calcification

- T2: typically isointense to hypointense on T2 with foci of decreased intensity corresponding to the foci of calcification. High signal may be seen in surrounding bone marrow and soft tissues due to edema.

C+ (Gd): avidly enhances, with associated enhancement of the surrounding soft tissues.
OSTEOSARCOMA

• Second most common primary bone tumor.

• Primary vs. secondary

• Types: Conventional
  Telangiectatic
  Small cell
  Osteoblastic / Osteoblastoma like
  Chondroblastic
  Fibrohistiocytic
  Surface
  Extra skeletal
IMAGING APPEARANCE

OSTEOID

TELENAGIEC TATIC

CHONDROID

GIANT CELL
Plain film:
- Medullary and cortical bone destruction
- Wide zone of transition, permeative or moth-eaten appearance
- Aggressive periosteal reaction
- Tumor matrix ossification/calcification

CT: Assisting biopsy and staging

MRI: Predominantly lytic lesions may be in apparent on both plain film and MRI
- Soft tissue non-mineralized component: intermediate signal intensity on T1 / T2
- Mineralized/ossified components: low signal intensity on T1 / T2
- Peri-tumoral edema: intermediate signal intensity on T1 / high signal intensity T2
- Scattered regions of hemorrhage

Enhancement
OSTEOBLASTOMA LIKE OSTEOSARCOMA / AGGRESSIVE ATYPICAL OSTEOBLASTOMA

- Poor prognosis with propensity for local spread, recurrence and metastasis.

- No defining radiologic appearance;
  Look for increasing size
  Cortical destruction
  Soft tissue invasion

- Similar histologically to benign matrix producing tumors.
  - Exuberant osteoid encasing atypical osteoblasts (mitotic figures)
REFERENCES

• Osteoblastoma-like Osteosarcoma of the Cuboid: A Case Report Navin L Kumar, Andrew E Rosenberg and Kevin A Raskin

