Scapular Tumours

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Tumours of the Scapula

• Incidence: 3% of bone tumours
• Benign Tumours: commonest are Osteochondroma, ABC, osteoblastoma and osteoid osteoma, fibromatosis.
• Primary Malignant Tumours: commonest are Chondrosarcoma, Ewing’s sarcoma, osteosarcoma, lymphoma.
• Secondaries from breast, kidneys, thyroid, lungs, colon.
Incidence in Kasr Al Aini

• Our series of scapular tumours (1994 – 2006) is composed of:

  25 primary malignant tumours (36% CHSA, 28% Ewing, 12% STS, 8% OSA, others)

  13 benign bone tumours (38% ABC, 23% OCH, 23% OBM, 7% OO, 7% CBM)
Clinical Picture

- Swelling
- Pain
- Limited shoulder ROM
- Brachialgia

Usually patients present late due to the deep seated location of the scapula.
Imaging of Scapular Tumours

Plain Xrays

AP, lateral and axial views

- Clue about the nature of the lesion.
- Clue about location.
- Clue about associated pathologies.
Aneurysmal Bone Cyst
Aneurysmal Bone Cyst
Osteochondroma

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Osteoblastoma
Osteosarcoma
Osteosarcoma
Chondrosarcoma
Chondrosarcoma
Chondrosarcoma
Chondrosarcoma
Ewing’s Sarcoma
Ewing’s Sarcoma
Ewing’s Sarcoma
Fibromatosis

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Imaging of Scapular Tumours

MRI
Axial, sagittal, coronal (T1, T2, STIR, contrast)

- Clue about diagnosis
- Exact tumour extension
  1. Intraosseous extent mainly to glenoid and acromion.
  2. Soft tissue extent and muscle involvement.
  3. Adherent to chest wall or not
  4. Relationship to neurovascular bundle

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Clue about diagnosis
Clue about diagnosis
Clue about diagnosis
Intraosseous extension
Soft tissue extension
Relationship to NVB

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Imaging of Scapular Tumours

CT

Regular and 3D reconstruction

• Clue about diagnosis (calcifications, cortical lesions like osteoid osteoma, subtle bone destruction)

• CT guided biopsies
Imaging of Scapular Tumours

**Angiography**

- Therapeutic embolization in extensive ABC
- Preoperative devascularization in vascular tumours
Biopsy of Scapular tumours

• **Closed** (FNA or Core)
  CT or ultrasound guided

• **Open**

  *Posterior along oblique line from tip to AC joint*
Management of scapular tumours

• Benign Tumours
• Malignant tumours
Benign Tumours

Special considerations:

• Excisional Curettage is always useful (deroofing)
• Always do extended curettage (high speed burr and adjuvant)
• Always use drains due to frequent post operative collection.
• OO can be treated by heat ablation
Malignant Tumours

• Primary Tumours
• Secondary Tumours
Malignant Bone Tumours

• CHSA surgery only
• Ewing: chemotherapy, surgery or radio or both, chemotherapy.
• Osteosarcoma: chemo, surgery, chemo
• Lymphoma: chemo, radio, chemo
• Secondaries: radiotherapy unless from kidney (surgery preceded by embolization)
Malignant Bone Tumours

Surgery

- Partial scapulectomy: if glenoid could be preserved
- Total scapulectomy
- Forequarter amputation (if NVB is involved)
Reconstruction after scapulectomy

• Scapular prosthesis
• Scapular allografts

These methods do not improve the function. They only improve the appearance, but also increase complication rates.
Prognosis

- Oncologic outcome
- Functional outcome
Oncologic outcome

• Although considered part of axial skeleton, it does not have a worse prognosis as compared to extremity tumours !!

• Survival of patients with malignant tumours varies according to type and similar to extremity locations.

• Local recurrence after resection of malignant tumours is less than extremity locations
Functional outcome

**Total scapulectomy:**
- Full elbow and hand function
- 10-20 degrees flexion and extension
- Loss of abduction

**Partial scapulectomy (retaining glenoid):**
- Full elbow and hand function
- 20-40 degrees flexion and extension
- Abduction 30 degrees
Functional outcome

• According to the MSTS scoring system which evaluates pain, functional activity, emotional acceptance, arm elevation, manual dexterity and lifting ability:

  Average score 74% (range 66 – 86%)

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