Musculoskeletal Pseudo-tumor

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Enchondroma?
Osseous lymphoma?
Soft tissue sarcoma?

T1W      T2FS      T1FS+Gd
Soft tissue sarcoma?
Pseudo-tumor

Musculoskeletal pseudo-tumors from physical exam (palpable mass)

Musculoskeletal pseudo-tumors from radiography (osteolytic lesion)
Palpable Pseudo-tumor

Three broad categories

- Normal variant
- Traumatic lesion
- Infection/Inflammation
Palpable Pseudo-tumor

*Normal variant*

- Asymmetric fat deposition
- Asymmetric muscle/tendon hypertrophy
- Accessory muscle
- Bony prominence
Palpable Pseudo-tumor

Traumatic lesions

- Muscle/tendon tear or rupture
- Hematoma
- Morel-Lavallee lesion
- Myositis ossificans (traumatic heterotopic ossification)
Palpable Pseudo-tumor

**Infection or inflammation**
- Focal myositis or myopathy
- Abscess
- Tenosynovitis
- Bursitis
- Myonecrosis
- Fat necrosis
- FB granuloma or other granulomatous lesion
- Arthritis
Radiographic Pseudo-tumor

- Pseudo-lesions
- Fat deposition in bone marrow & Localized osteoporosis (Disuse)
- Osteomyelitis
- Insufficiency fracture
- Hemophilic pseudo-tumor
- Arthritis/arthropathy
- Metabolic disease (e.g. Brown tumor, amyloidosis)
- Particle disease
Radiographic Pseudo-tumor

**Osteomyelitis**

- Osteomyelitis with moth-eaten or permeative bone destruction may mimic malignant bone tumor e.g. metastasis, multiple myeloma, Ewing’s sarcoma, NHL, etc.

- Indolent osteomyelitis with geographic bone destruction may simulate slow growing bone tumor or tumor-like lesion e.g. giant cell tumor, chondromyxoid fibroma, cartilaginous tumor, etc.
Radiographic Pseudo-tumor

**Insufficiency fractures**

- Can have ill-defined lytic appearance on plain radiograph and may mimic bone metastasis
- Background of decreased bone density, evidence of fracture lines on CT or MRI, and other insufficiency fractures with irregular sclerotic lines at typical locations are helpful diagnostic clues.
Radiographic Pseudo-tumor

**Hemophiliac pseudo-tumor**
- Secondary to repetitive bleeding into the bone
- Affected bones in order of frequency: femur, pelvis, tibia, and small bones of hands
- Well-defined, unilocular or multilocular expanding lytic lesion of variable size
- May show endosteal scalloping, cortical thinning or thickening, traversing trabeculae or septalike structure, peripheral sclerosis
- Progressive expansion may lead to deformity or pathologic fracture
Radiographic Pseudo-tumor

**Metabolic disease**

- Brown tumor can mimic benign bone tumor but other radiographic findings of hyperparathyroid should guide the correct diagnosis.
- Skeletal amyloidosis can manifest as aggressive expansile lytic lesion simulate tumor, commonly encountered at the hip and shoulder.