Unknown Cases 3

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Disclosure of Commercial Interest

• Neither I or a member of my immediate family have a financial relationship with a commercial organization that may have an interest in the content of this educational activity
11 yo with pain
Giant Cell Tumor of Bone

- < 3% in skeletally immature
- < 2% in hands and feet
- $2^\circ$ ABC in 14%
- Metaphyseal origin?
12 yo female
16 yo female
12 yo female with ankle pain
Chronic multifocal recurrent osteomyelitis (CRMO)

• Sterile osseous inflammation

• Prime age group 9 – 14 years,

• Range 6 months → 55 years

• Autoimmune?…genetic?
Imaging location and appearance

• Lower extremity 3x > upper extremity

• 75% metaphyses or equivalents

• Early phase → lytic

• Late phase → mostly sclerotic with hyperostosis

• Huge range
13 yo with pain & swelling
• Remote fracture?

• Intra-articular body?

• Synovial chondromatosis?

• Phlebolith?
Synovial venous malformation

• Slow flow malformation with abnormal venous network

• Large and small dysplastic post-capillary thin walled vascular channels with various amounts of thrombi, phleboliths and hamartomatous stromi

• Can transcend tissue planes
Radiographic Imaging findings

- Phleboliths
- Hypoplasia
- Overgrowth
- Demineralization
- Mixed sclerotic changes
- Periosteal reaction
Differentials…

**Primary synovial pathologies**
- Intra-articular (synovial) venous malformation
- PVNS
- Nodular synovitis (localized PVNS)
- Hemophiliac arthropathy
- Synovial chondromatosis
- Lipoma arborescens

**Intra-articular blood products c/ mass effect**
- Synovial venous malformation
- PVNS
- Post-traumatic/Inflammatory
  - Hemophilic
  - Pyogenic
  - Non-pyogenic
15 yo with left hip and back pain
• Special thank you to my colleagues in Radiology, Pathology, Plastic Surgery and Oncologic Orthopedic Surgery.