

# Tenosynovial Giant Cell Tumor

## ■ Synonyms

- Formerly pigmented villonodular synovitis (PVNS)
- Benign synovioma; focal nodular synovitis

## ■ Definitions

- Low-grade fibrohistiocytic proliferation with hemosiderin deposits in synovial joints
- 2 subtypes
- Diffuse tenosynovial giant cell tumor (TSGCT)
- Localized TSGCT

# Tenosynovial Giant Cell Tumor

- Also known as **tenosynovial tumors of tendon sheath**,
- Group of so-called fibrohistiocytic tumors, which are usually benign
- Most often arise from the synovium of joints, bursae or tendon sheaths, and show synovial differentiation.
- Despite identical histology, there are two subtypes
  - Have different clinical presentations and management and they are discussed separately:
    - » Localized tenosynovial GCT
    - » Diffuse tenosynovial GCT

# Etiology

- Unknown
- The WHO classification classes this tumor into subtypes
  - Growth pattern (localized-type vs diffuse-type) and
  - Location (intra-articular vs extra-articular)
- **Localized** tenosynovial GCT is more common with a predominance for the hand and wrist whereas the
- **Diffuse-type** is less common and affects the large joints (e.g. knee, hip, ankle) more.
- Treated as low-grade, locally aggressive neoplasm
- Abnormal synovium is prone to hemorrhage with minor trauma
- Repeated hemorrhagic effusions result in iron deposition in synovium and nodules
- With proliferation of abnormal synovium, associated focal erosions and subchondral cysts may develop

# General Features

## ■ Size

- Diffuse TSGCT: may enlarge to involve entire synovial portion of joint
- Localized TSGCT: 1-9 cm

## ■ Morphology

- Diffuse TSGCT: widespread distribution corresponding to shape of joint and associated synovial spaces
- In knee, can extend down popliteus tendon sheath and into posterolateral compartment, coronary recess, meniscofemoral recess, popliteal cyst, intercondylar notch, and even along collateral ligaments
- Localized TSGCT: singular round, ovoid, or lobulated mass in synovial joint