DDx:

- CPPD:
- Degenerative Disc Disease
  - Disc bulges and herniations may calcify when chronic
  - Mild irregularity of vertebral endplate often occurs
    - Generally less severe than erosions of CPPD
- Pseudopannus
  - Thickening of tectorial membrane due to degenerative changes
  - Causes soft tissue fullness around dens
  - May be seen with abnormal motion secondary to more inferior cervical fusion.
- Hydroxyapatite Deposition Disease
  - Rounded calcific deposits in soft tissues
    - Homogeneous, amorphous densities
    - Tendon insertions
    - Periarticular/Intraarticular deposition of hydroxyapatite crystals
      - May involve matrix vesicles and local dysregulation of extracellular PPi homeostasis (PPi: Inhibitor of apatite crystal nucleation)
  - Uncommon in spine
    - Common in shoulder regions

DDx:

- Rheumatoid Arthritis, Adult
  - Odontoid erosions; soft tissue mass may appear identical to CPPD on MR
    - Absence of calcifications distinguishes from CPPD on CT and radiographs
  - Spares intervertebral discs
  - Look for subaxial erosive changes
- Seronegative Spondyloarthropathy
  - Ligament ossifications
  - May appear identical to CPPD on MR
- Pyogenic Osteomyelitis
  - Usually affects only 1 level
  - High signal intensity in disc on T2WI and STIR
  - Phlegmon or abscess often present in spinal canal or prevertebral soft tissues
  - Infected areas show enhancement with gadolinium

DDx:

- Hemodialysis Arthropathy
  - Endplate erosions
  - Calcifications due to hydroxyapatite deposition
- Hyperparathyroidism
  - Osteopenia, endplate erosions, soft tissue calcifications
  - Laboratory values most useful to distinguish from CPPD
- Ochronosis
  - Diffuse disc calcifications and degeneration
- Gout
  - Much less common in spine than CPPD
  - Endplate erosions, soft tissue masses
  - Calcifications are usually minimal
  - Focal "punched out" lesions are typical