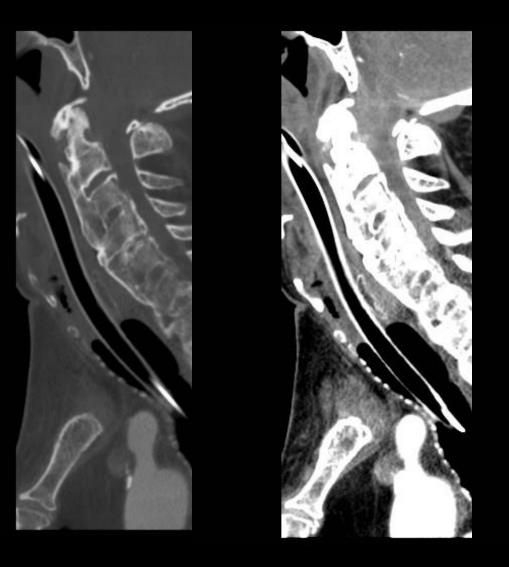
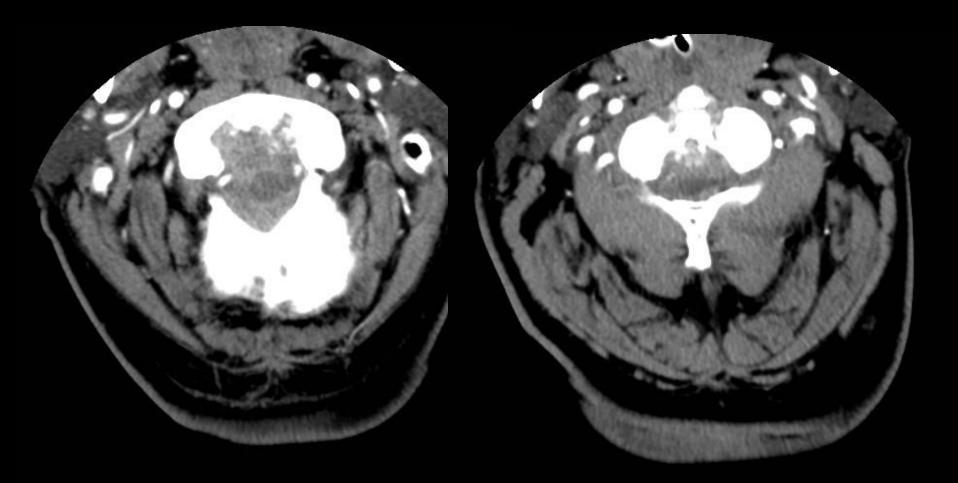


## MVA in Mexico

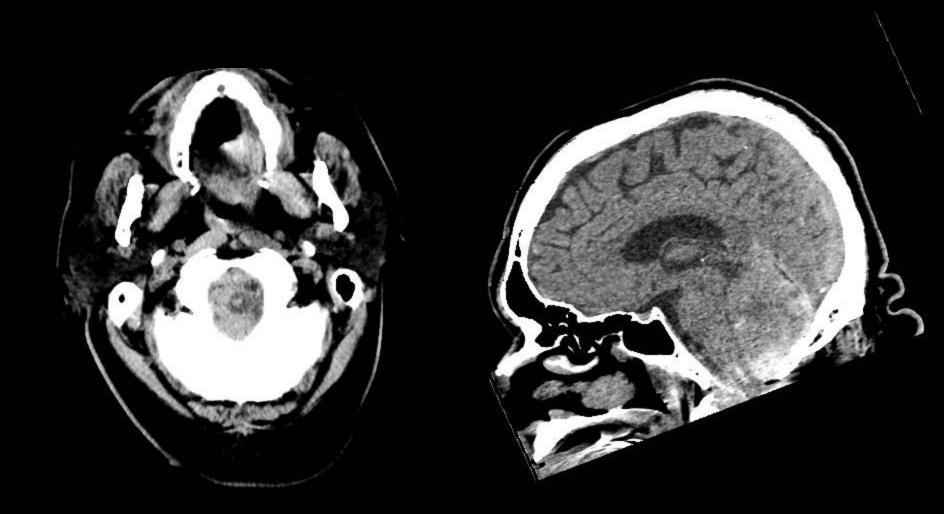
Peachy Piaña











### Atlantooccipital CPPD

- Periodontoid pseudotumor
- Can have spine involvement without peripheral skeleton involvement
- 90% of calcification at craniocervical junction occurs posterior to odontoid
  - Develop anywhere around the odontoid including synovial membrane, articular capsule, and alar ligament.
- Transverse ligament- Commonly involved ligament in deposition of CPPD crystals
  - Calcifications curvilinear, stippled or mixed- best dx clue
  - Calcification of transverse ligament common in elderly
  - Symptomatic C1-C2 CPPD very uncommon
- Variable soft tissue mass with effacement of thecal sac
  - May show peripheral enhancement
- Variable cystic or erosive changes within adjacent bone
  - Typically well corticated erosions

### Differential Diagnosis

- Rheumatoid arthritis- pannus formation diffusely enhances and lacks calcification
- Osteomyelitis
- OPLL
- Meningioma- intradural extramedullary
- Metastatic disease

### Clinical Presentation

- Variable
- MCC incidental finding
- Mass with myelopathy
- Acute neck pain
  - pseudogout: arthritis caused by CPPD crystal inflammation with symptoms like gout
  - Crowned dens syndrome: fever with suboccipital pain, stiffness, elevated inflammatory markers

# Complications of CPPD at C1-C2

- Degenerative disc disease
- Spondylolisthesis
- Atlantoaxial subluxation
- Vertebral ankylosis
- Occipitoatlantoaxial joint collapse
- Formation of subchondral cyst or erosions
- Myelopathy
- Type 2 Dens fracture

#### Treatment

- Conservative for inflammatory symptoms of crowned dens
  - NSAIDS, steroids, physical therapy
- Transoral-transpharyngeal resection of CPPD mass if causing pain or myelopathy

### References

Kakitsubata et al. Calcium Pyrophosphate Dihydrate Crystal Deposition in and around the Atlantoaxial joint: Association with Type 2 Odontoid Fractures in Nine Patients. Radiology 2000; 216:213-219

Ciricillo et al. Foramen magnum syndrome from pseudogout of the atlanto-occipital ligament. J Neurosurg 71:141-143, 1989

Sethi et al. Cervical Myelopathy Secondary to Calcium Pyrophophate Crystal Deposition in the Alar ligament. Surg Neol 1997;47:498-9

Sethi et al. Cervicomedullar compression secondary to massive calcium pyrophosphate crystal deposition in the atlantoaxial joint with intradural extension and vertebral artery encasement. Surg Neol 67 (2007) 200-203

Scutellari et al. The crowned dens syndrome. Evaluation with CT imaging. Radiol med (2007) 112:195-207

**STATD**x