Calcified Chondroid Mesenchymal Neoplasm of the Temporomandibular Joint

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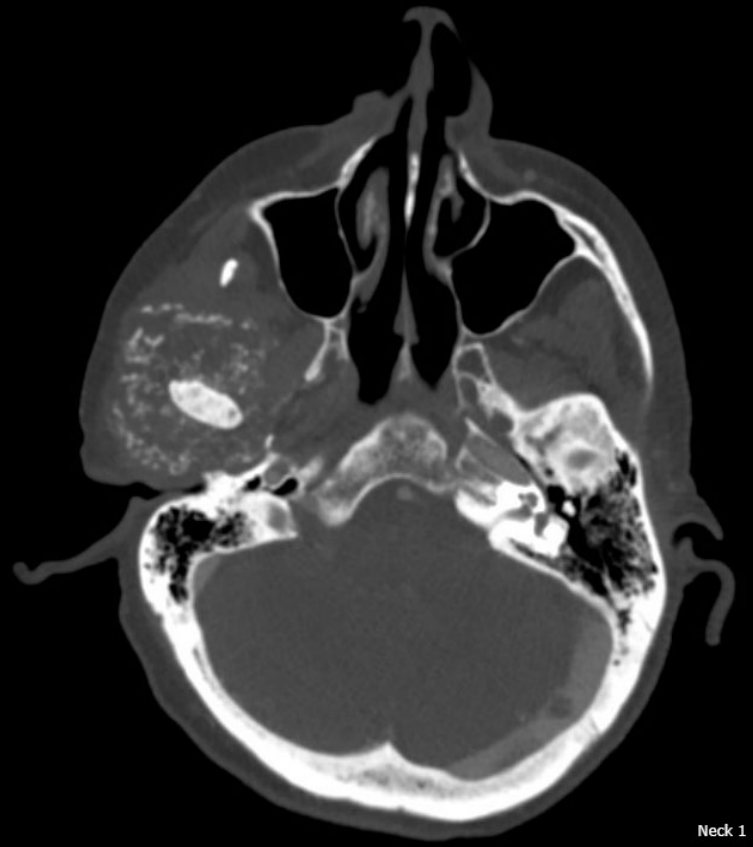
Clinical Presentation

- 76 year old female presented with an abnormal bony growth of the right mandibular condyle/sigmoid notch. It had been present for approximately 10 months and caused dull pain and soreness on the right side. Initially presented with right temporomandibular joint (TMJ) pain prior to noticing bony growth.
- On physical examination there was a 3x3x1 cm area of bony swelling in the right preauricular area with mild tenderness to palpation.
- No relevant past medical or past surgical history.
- The patient subsequently underwent CT of the neck soft tissues with contrast, followed by US guided biopsy, MRI of the face with and without contrast and CT angiography of the head and neck.

Imaging Discussion



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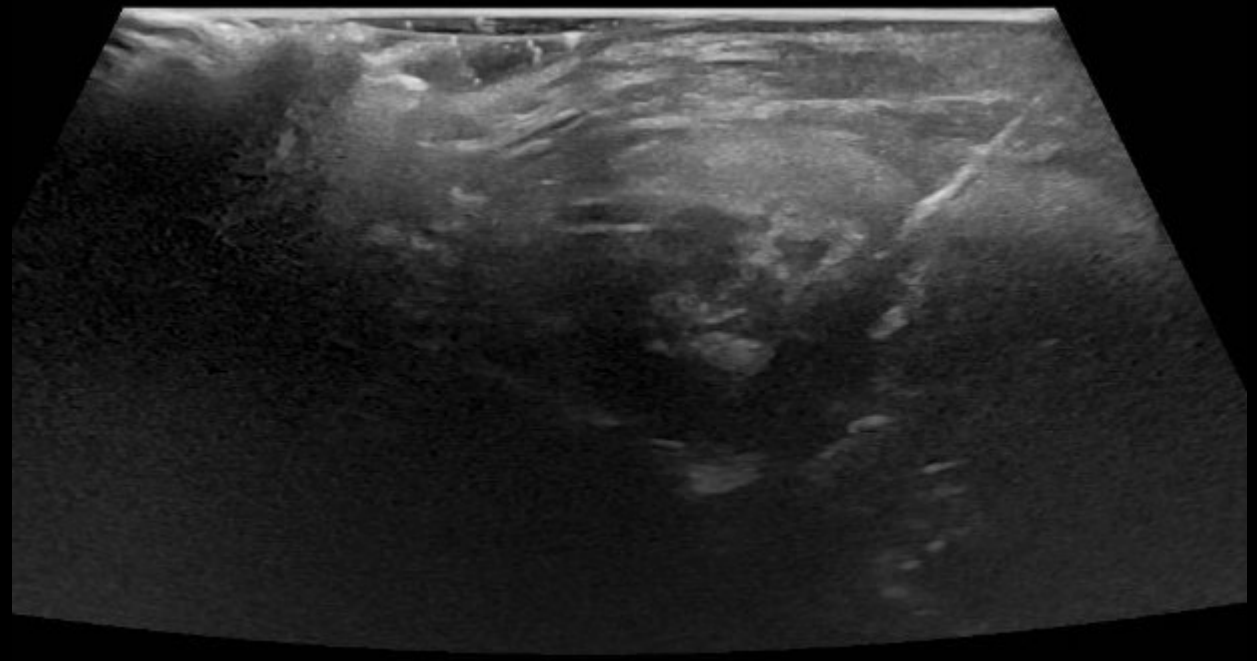

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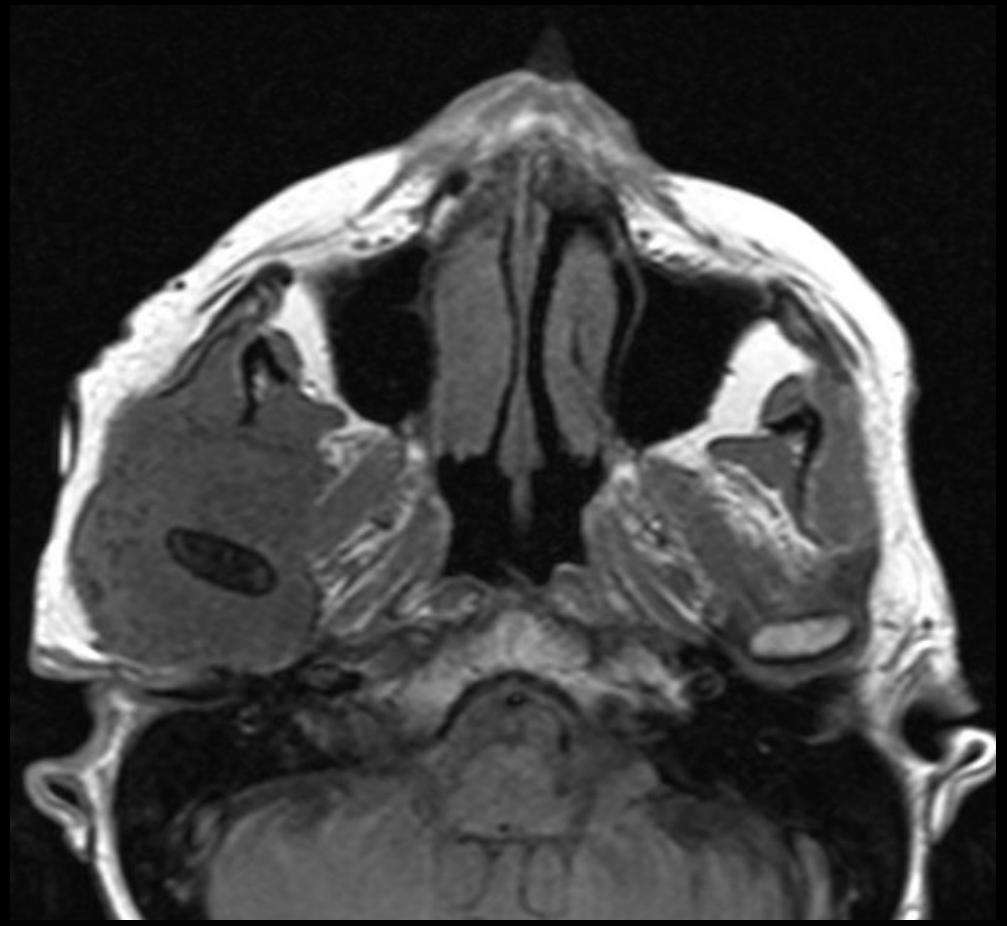

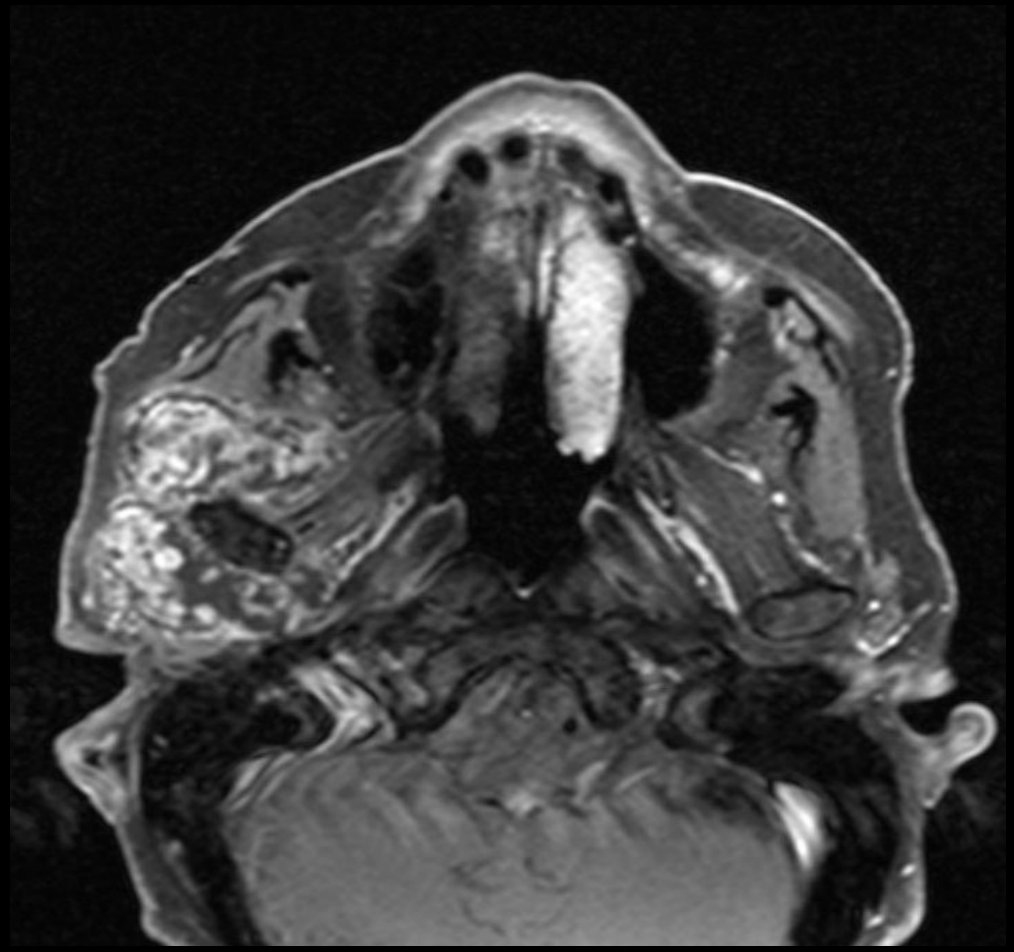

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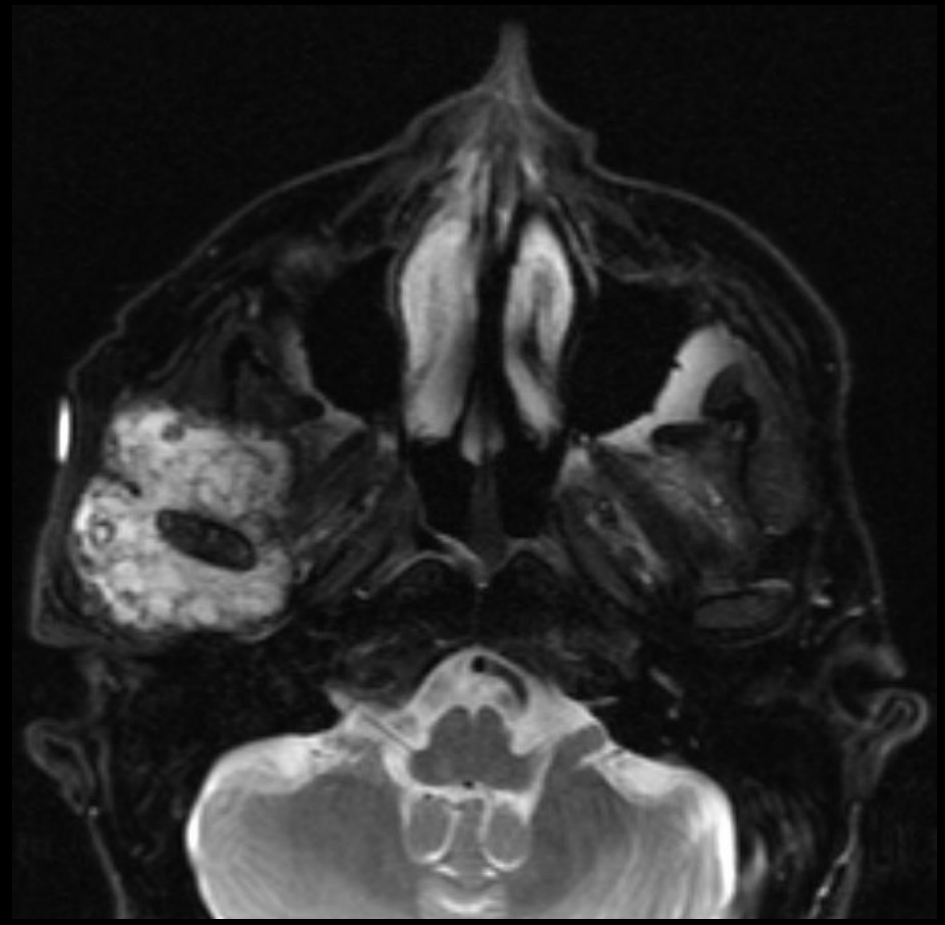

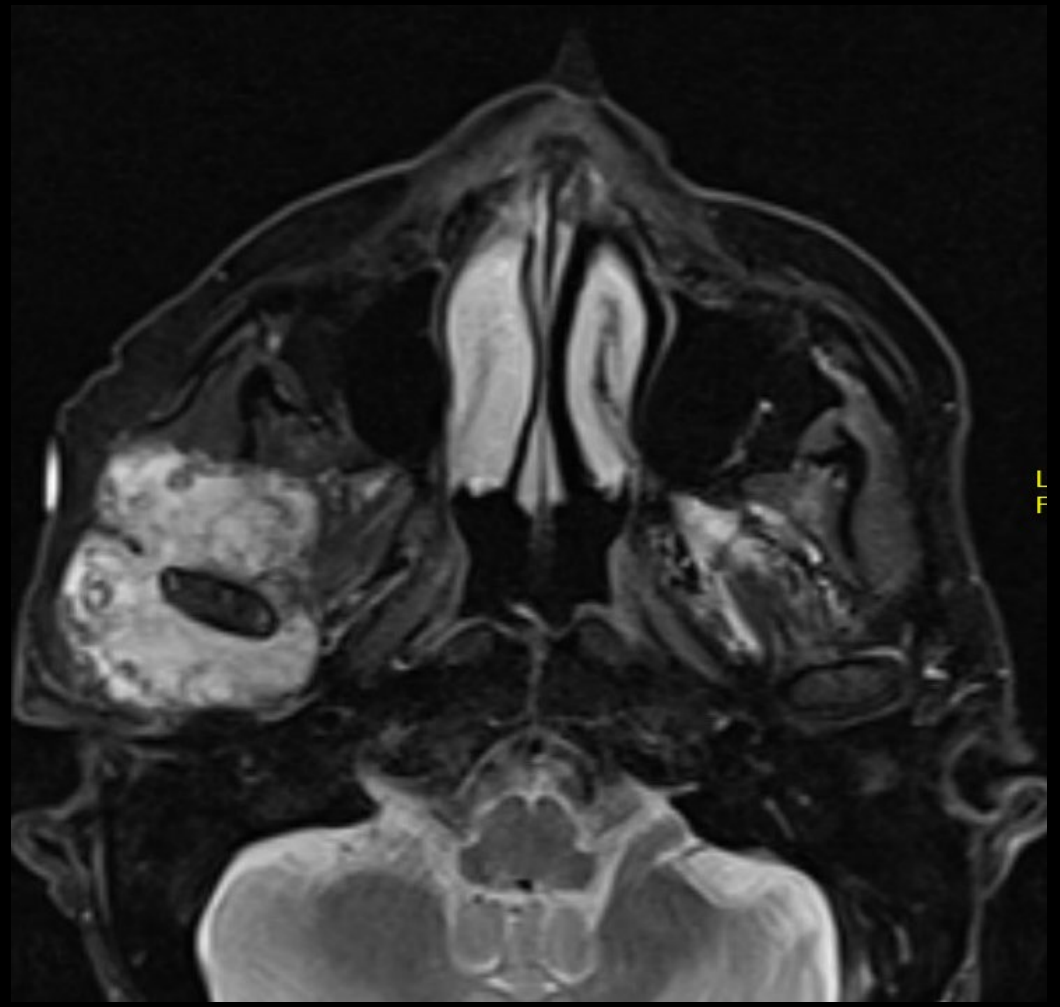

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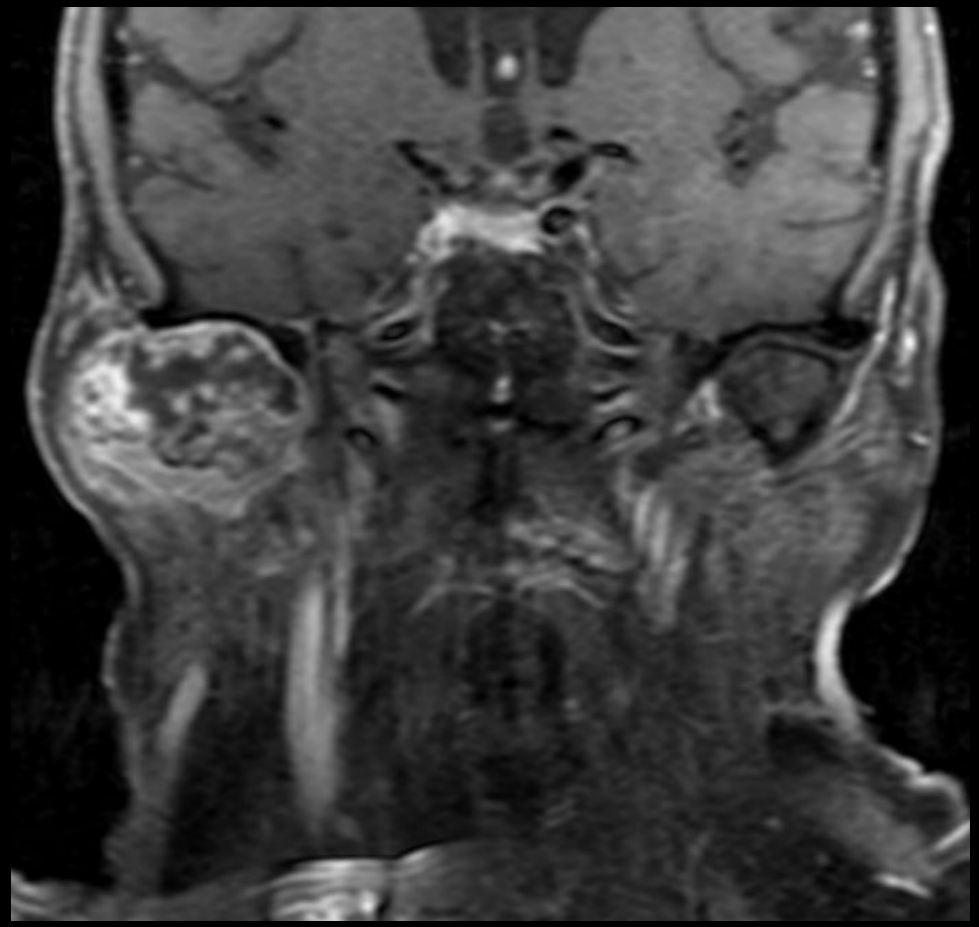

Imaging Discussion

- CT demonstrates soft tissue mass with chondroid matrix centered at the right mandibular condyle with extension in the right temporomandibular joint.
- US shows heterogenous echogenicity mass surrounding the cortical bone.
- MRI demonstrates an enhancing chondroid mass centered at the right mandibular condyle with extension in the right temporomandibular joint.
- Differential diagnosis includes both benign and malignant processes, e.g., synovial chondromatosis, chondroid tensoynovial giant cell tumor, tophaceous pseudogout and chondrosarcoma.

Management and Outcome

- The pathology from the biopsy demonstrated a proliferation composed of hyalinized cartilaginous matrix without overt nuclear atypia and with numerous foci of birefringent rhomboid crystals. The final diagnosis was bland-appearing cartilaginous proliferation with associated crystal deposition. This is a type of calcified chondroid mesenchymal neoplasm.
- The patient underwent angiogram with successful coil-embolization of the right internal maxillary artery with decreased tumor blush. This was complicated by right MCA M3-4 occlusion which was successfully recanalized following mechanical thrombectomy.
- The following day the patient underwent successful mandibulectomy/mandibulotomy and parotidectomy to remove the lesion. Pathology of the tumor was consistent with calcified chondroid mesenchymal neoplasm.

Take Home Points

- Lesions with chondroid matrix in the region of the TMJ can have both benign and malignant etiologies.
- It is important to be aware of calcified chondroid mesenchymal neoplasms as they represent a relatively newly described entity that can mimic other chondroid lesions. These lesions include synovial chondromatosis, chondroid tenosynovial giant cell tumor, calcium pyrophosphate dihydrate (CPPD) deposition disease, chondroblastoma and chondrosarcoma.
- Calcified chondroid mesenchymal neoplasms are a group of tumors that have a particular translocation of FN1 –receptor tyrosine kinase gene fusions and have a predilection for the TMJ.

References

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