

AMSER Case of the Month

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77-year-old Female Presenting with Facial Swelling

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Patient Presentation

- **HPI:** 77 y.o. female presented to the ED with facial pain, swelling and oral cavity drainage
- **PMHx:** Hypertension, Hypercholesterolemia
- **PSHx:** Hysterectomy
- **ROS:** + Dental pain, right sided neck pain, right ear pain (referred from right lower gum area), facial swelling, sinus pressure and sinus pain, spitting up brownish color sputum, denies fever, chest pain, SOB, dysuria, N/V/D
- **Vital Signs:** T 98.5F, HR 71, RR 16, BP 176/84, SpO2 95%, W 225 lbs
- **Physical Exams:** Abnormal dentition, generalized dental tenderness, gingival swelling, dental caries and gum lesions present. No dental abscesses
- **Labs:** Normal CBC with diff, CMP normal with mild hypokalemia (3.3)

What imaging should we order?

ACR Appropriateness Criteria

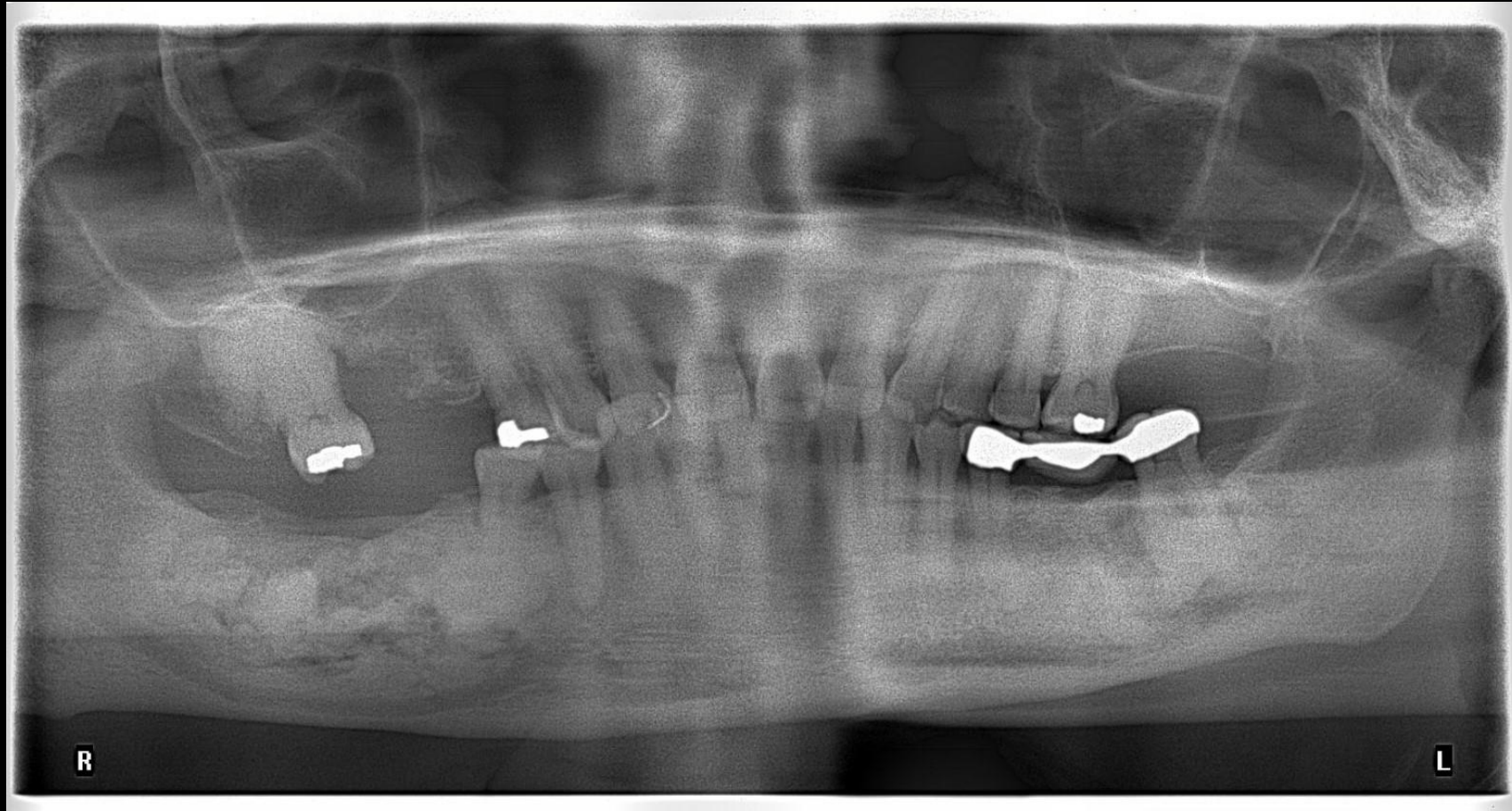
Variant 4:

Trismus or malocclusion or gingival hemorrhage or mucosal hemorrhage or loose teeth or fractured teeth or displaced teeth. Suspect mandibular injury. Initial imaging following primary survey.

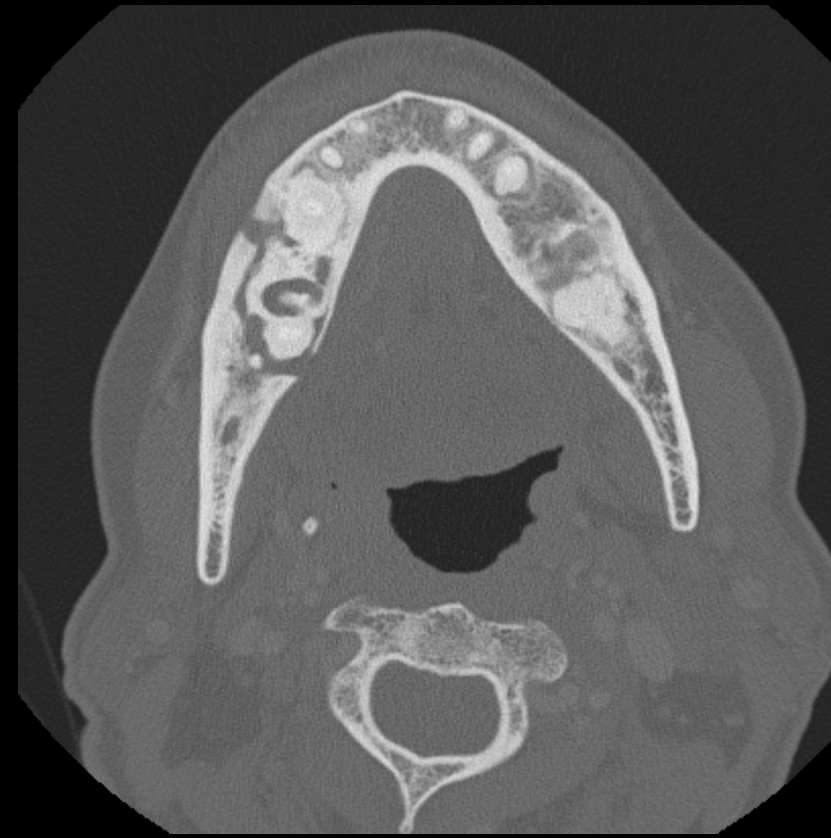
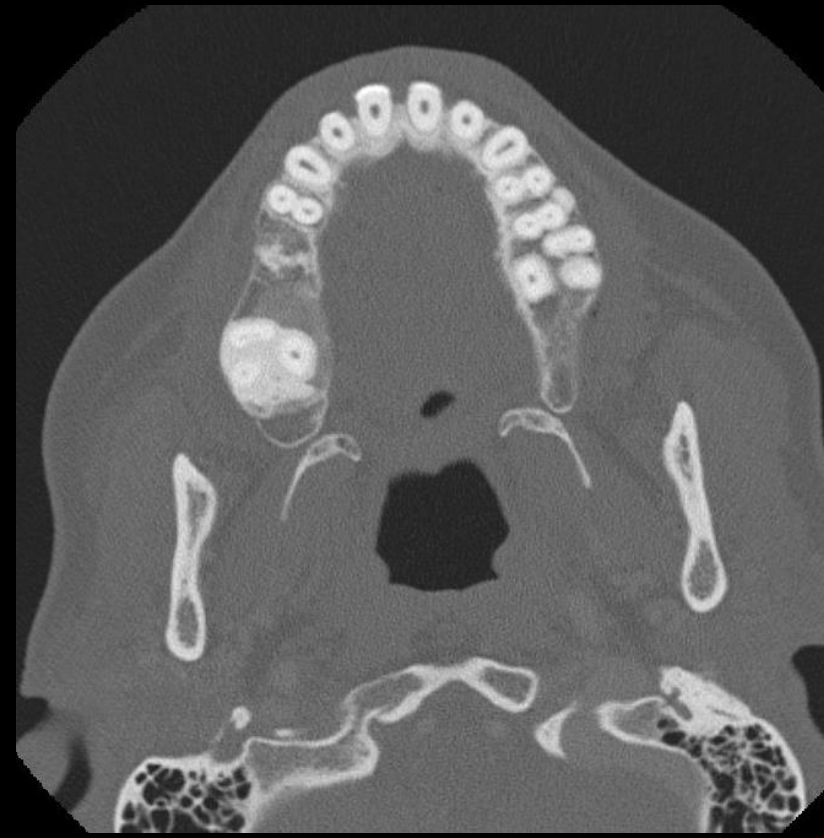
Procedure	Appropriateness Category	Relative Radiation Level
CT maxillofacial without IV contrast	Usually Appropriate	☼☼
Radiography mandible	May Be Appropriate	☼
Radiography chest	Usually Not Appropriate	☼
Arteriography cervicocerebral	Usually Not Appropriate	☼☼☼
MRA head and neck with IV contrast	Usually Not Appropriate	○
MRA head and neck without and with IV contrast	Usually Not Appropriate	○
MRA head and neck without IV contrast	Usually Not Appropriate	○
MRI cervical spine with IV contrast	Usually Not Appropriate	○
MRI cervical spine without and with IV contrast	Usually Not Appropriate	○
MRI cervical spine without IV contrast	Usually Not Appropriate	○
MRI head with IV contrast	Usually Not Appropriate	○
MRI head without and with IV contrast	Usually Not Appropriate	○
MRI head without IV contrast	Usually Not Appropriate	○
MRI maxillofacial with IV contrast	Usually Not Appropriate	○
MRI maxillofacial without and with IV contrast	Usually Not Appropriate	○

CT Maxillofacial and Mandible, Orthopantomography ordered

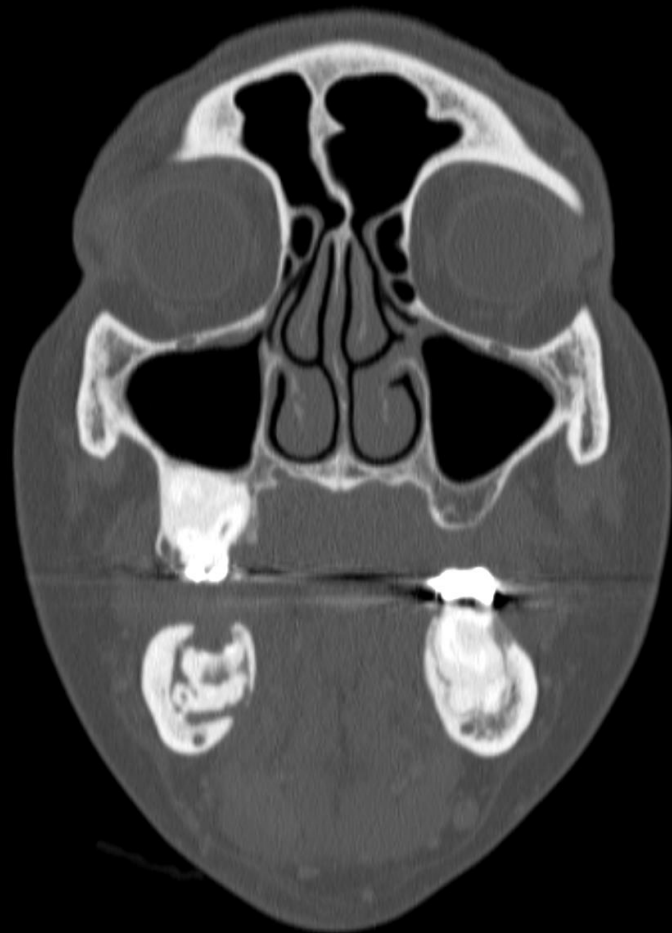
Findings (unlabeled)



Findings (unlabeled)

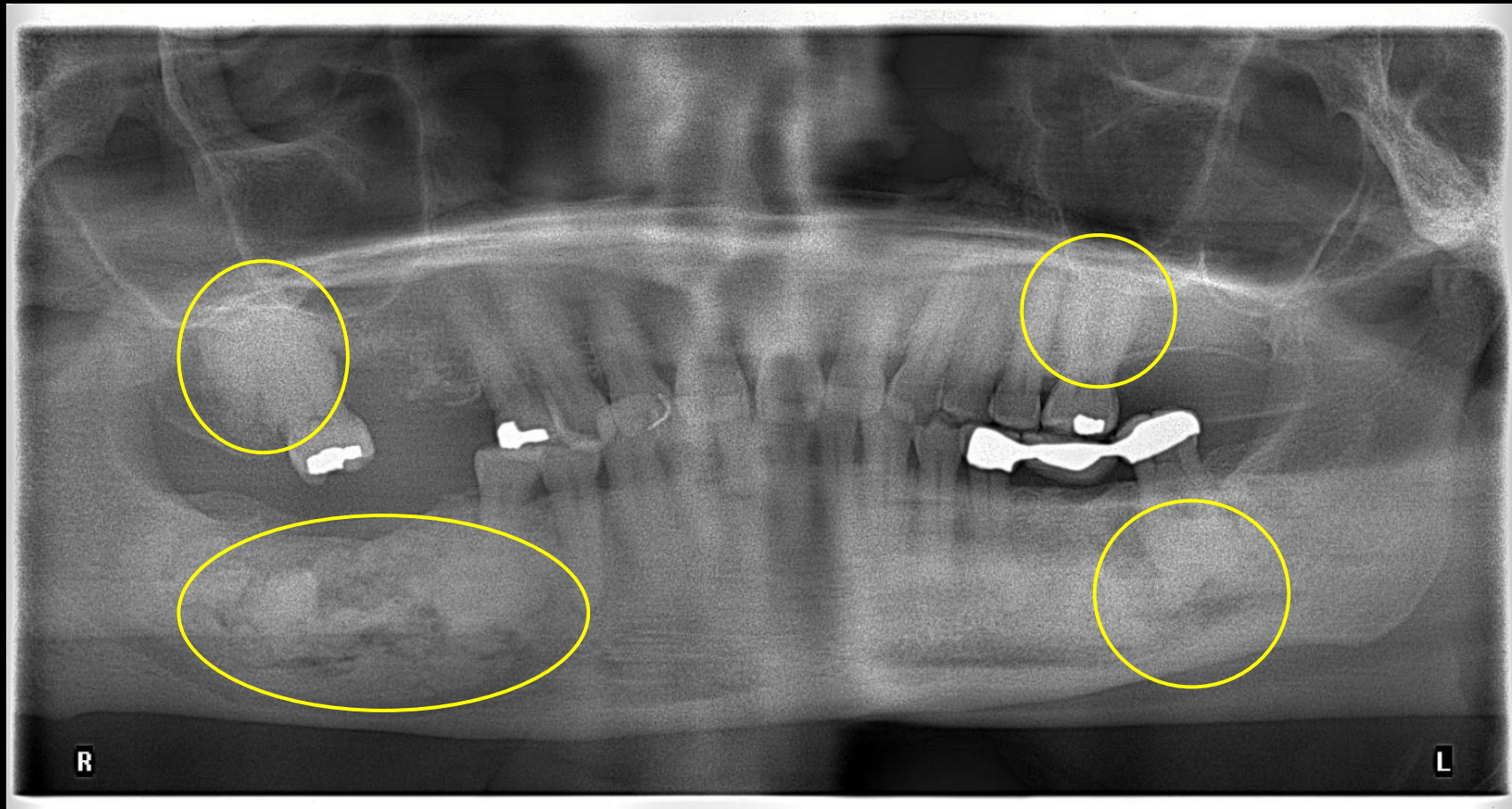


Findings (unlabeled)



Findings (labeled)

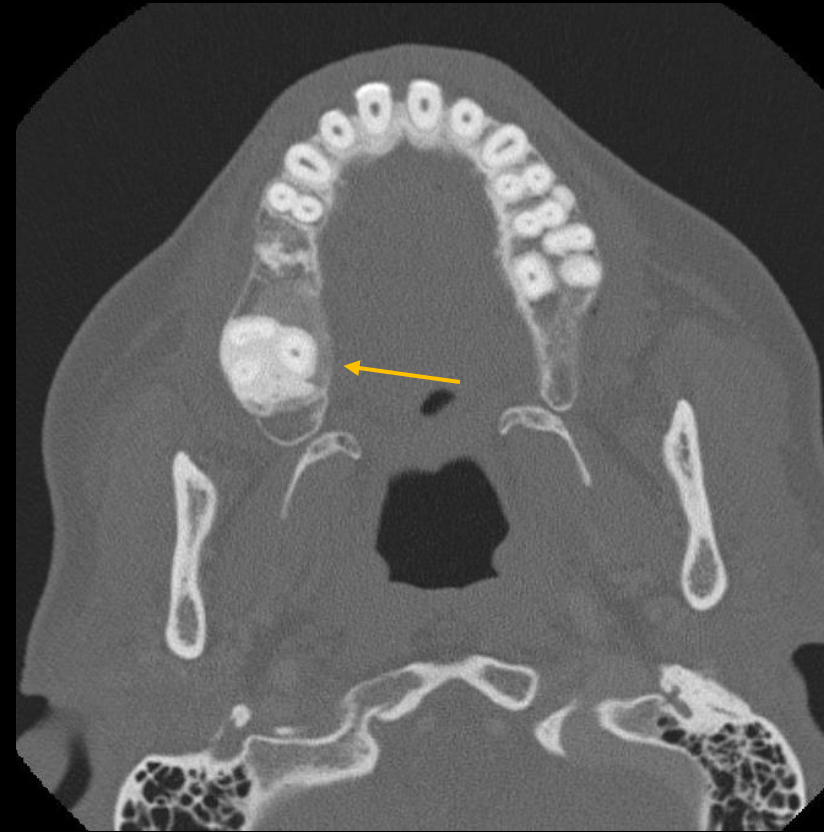
Mixed sclerotic and lucent lesions of the bilateral maxilla and mandible



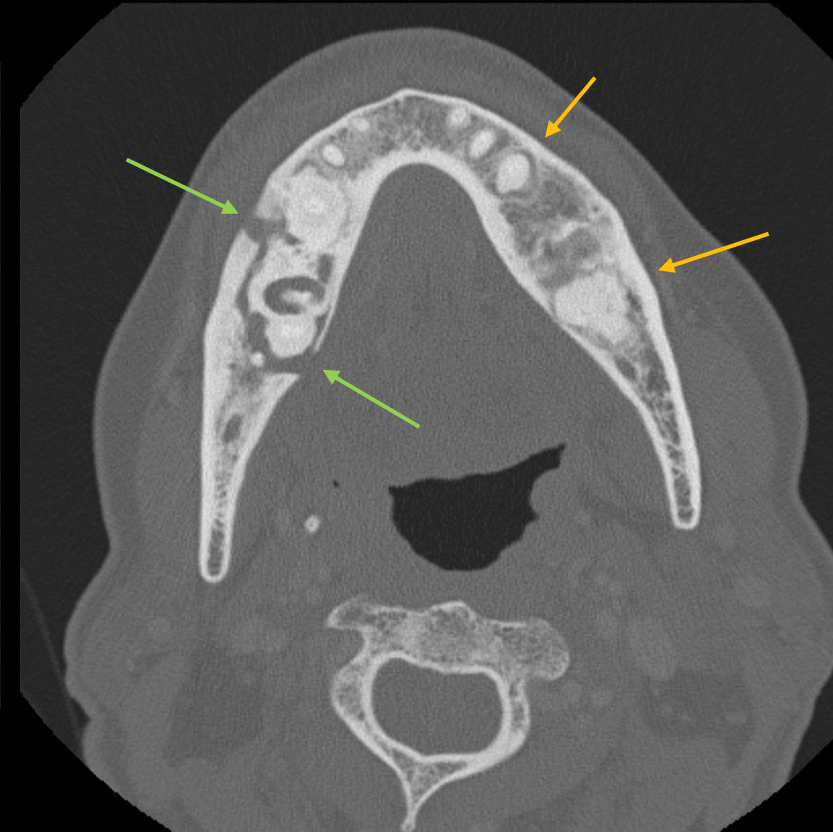
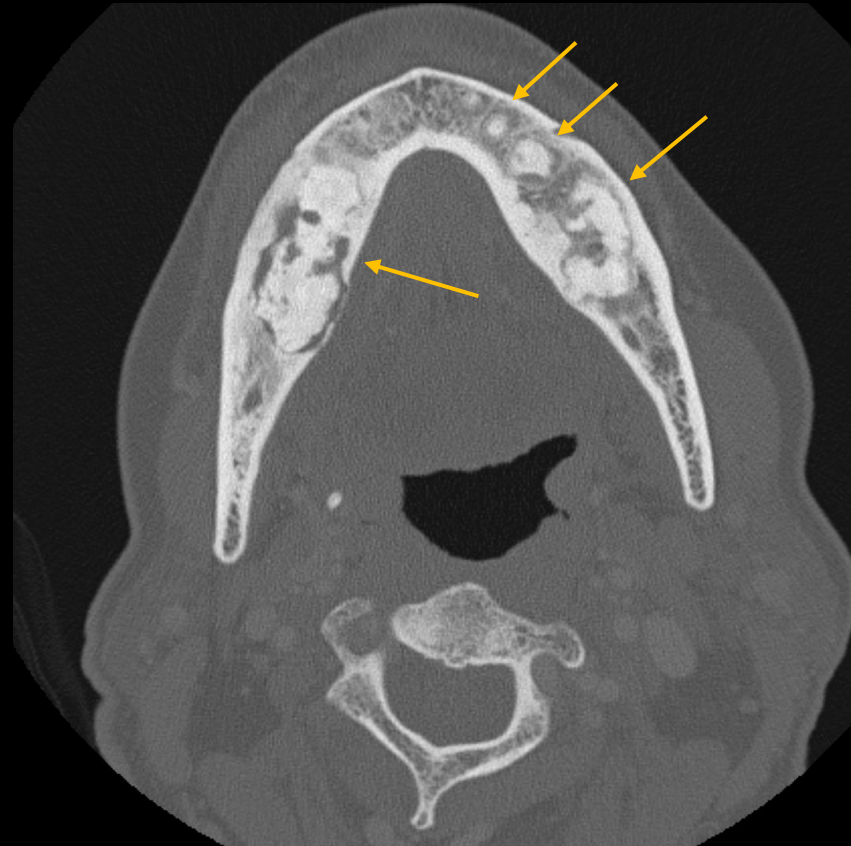
Sclerotic lesions with thin peripheral lucency surrounding the roots of multiple maxillary and mandibular teeth

Findings (labeled)

Disruption/ tract of the overlying mandibular buccal and lingual cortices suspicious for superimposed infection



Maxilla

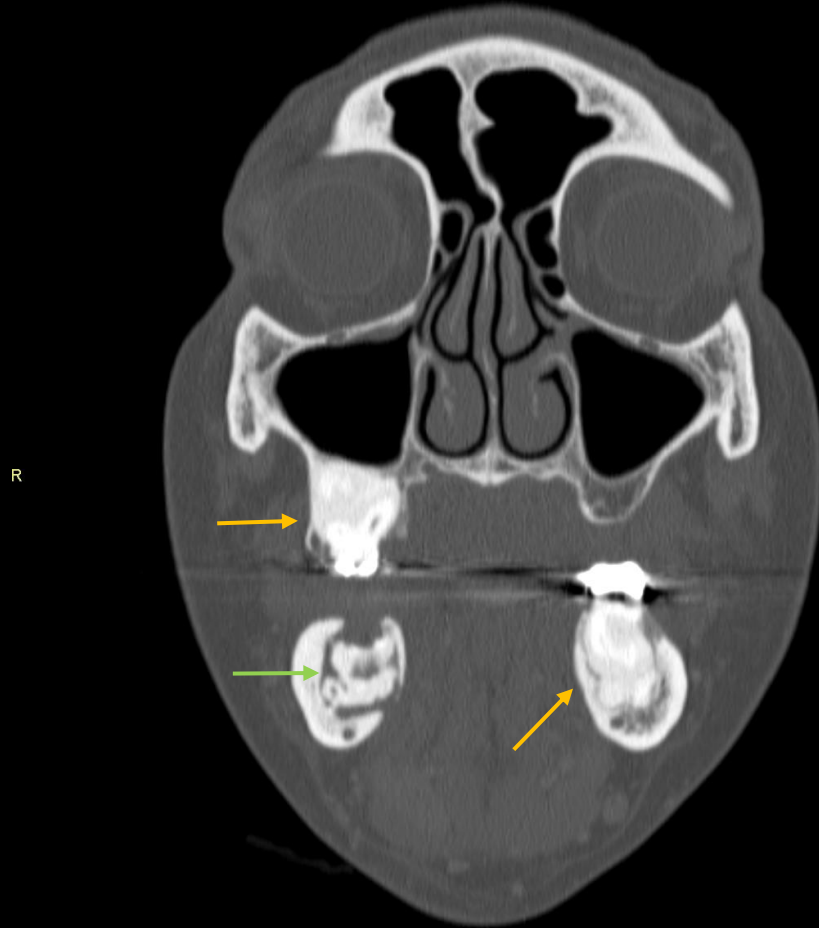


Mandible

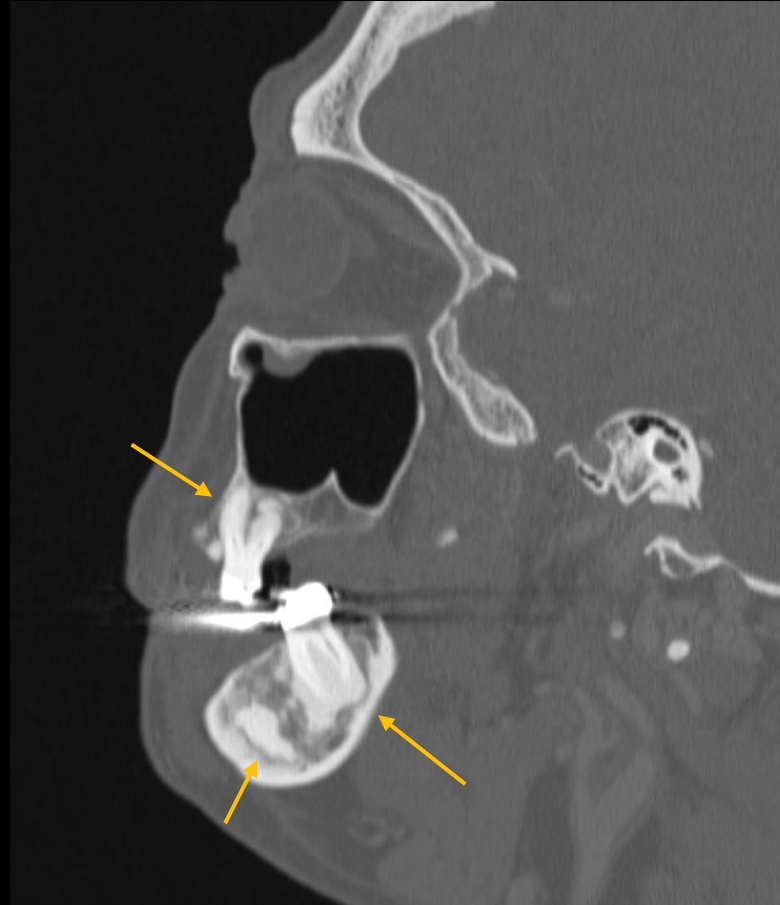
Sclerotic lesions with thin peripheral lucency surrounding the roots of multiple maxillary and mandibular teeth

Findings (labeled)

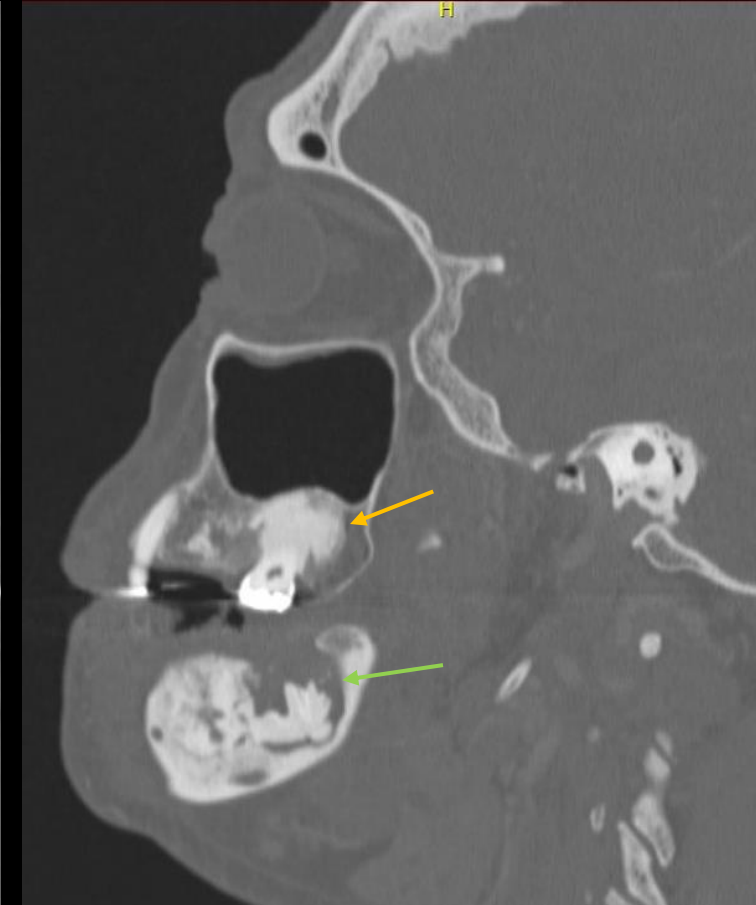
Large zone of lucency surrounding the residual roots of a right mandibular molar suspicious for superimposed infection



Left



Right



Final Dx:

Florid Cemento-Osseous Dysplasia (with
superimposed infection)

Patient Case Discussion

- **Florid Cemento-Osseous Dysplasia^{1,3}**
 - A rare condition of fibro-osseous (cemental) exuberant lesions involving multiple quadrants of the jaw
 - Unclear pathogenesis
 - Commonly seen in middle-aged black women in their 40s and 50s, also often found in Caucasian and Asian women
 - Often asymptomatic and may be found as incidental radiological finding
 - Can become symptomatic as prone to superimposed infection (our patient)
 - Patients may complain of dull pain, and develop an alveolar sinus tract exposing an avascular, yellow, sclerotic mass to the oral cavity
 - Often after tooth extraction or from progressive alveolar atrophy under a denture

Patient Case Discussion

- **Diagnosis/Imaging²**

- Diagnosis based on clinical presentation, patient demographics and radiological findings
- Orthopantomogram, cone-beam CT and maxillofacial CT are the modalities of choice
- Classically appear as multiple sclerotic lesions around the roots of vital teeth which become increasingly dense as they mature, typically with thin circumferential lucency
 - If superimposed infection is present, can have large zones of surrounding lucency with cortical disruption/tracts and infectious sequestrum
- Biopsy is generally unnecessary
- Differential diagnoses: Gardener's syndrome, Paget's disease, chronic diffuse sclerosing osteomyelitis and cemento-ossifying fibroma

Patient Case Discussion

- **Management⁴**

- Distinct radiological features makes biopsy unnecessary for diagnosis
 - Risk of infection or jaw fracture from attempting a biopsy
- Typically managed conservatively through clinical observation and regular radiological follow-up to monitor progression
- No surgical treatment is required if patient remains asymptomatic
- For our patient, the OMFS consultation deferred immediate surgical intervention. The patient was discharged with oral antibiotics, given return precautions, and scheduled for outpatient follow-up

References

1. Mangala M, Ramesh DN, Surekha PS, Santosh P. Florid cemento-osseous dysplasia: Review and report of two cases. *Indian J Dent Res.* 2006;17:131–4.
2. Kim JH, Song BC, Kim SH, Park YS. Clinical, radiographic, and histological findings of florid cemento-osseous dysplasia: A case report. *Imaging Sci Dent.* 2011;41:139–42.
3. Lin T-M, Huang W-H, Chiang C-P, et al. Florid cemento-osseous dysplasia (FCOD): Case report. *Journal of Dental Sciences.* November 16, 2010. Accessed August 7, 2024. <https://www.sciencedirect.com/science/article/pii/S1991790210000140>.
4. Das BK, Das SN, Gupta A, Nayak S. Florid cemento-osseous dysplasia. *Journal of oral and maxillofacial pathology : JOMFP.* January 2013. Accessed August 7, 2024. [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3687180/#:~:text=Floridcemento%2Dosseous%20dysplasia%20\(FCOD\),confusion%20in%20diagnosis%20and%20treatment](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3687180/#:~:text=Floridcemento%2Dosseous%20dysplasia%20(FCOD),confusion%20in%20diagnosis%20and%20treatment).