Salivary Glands

Dr Vincent Lam

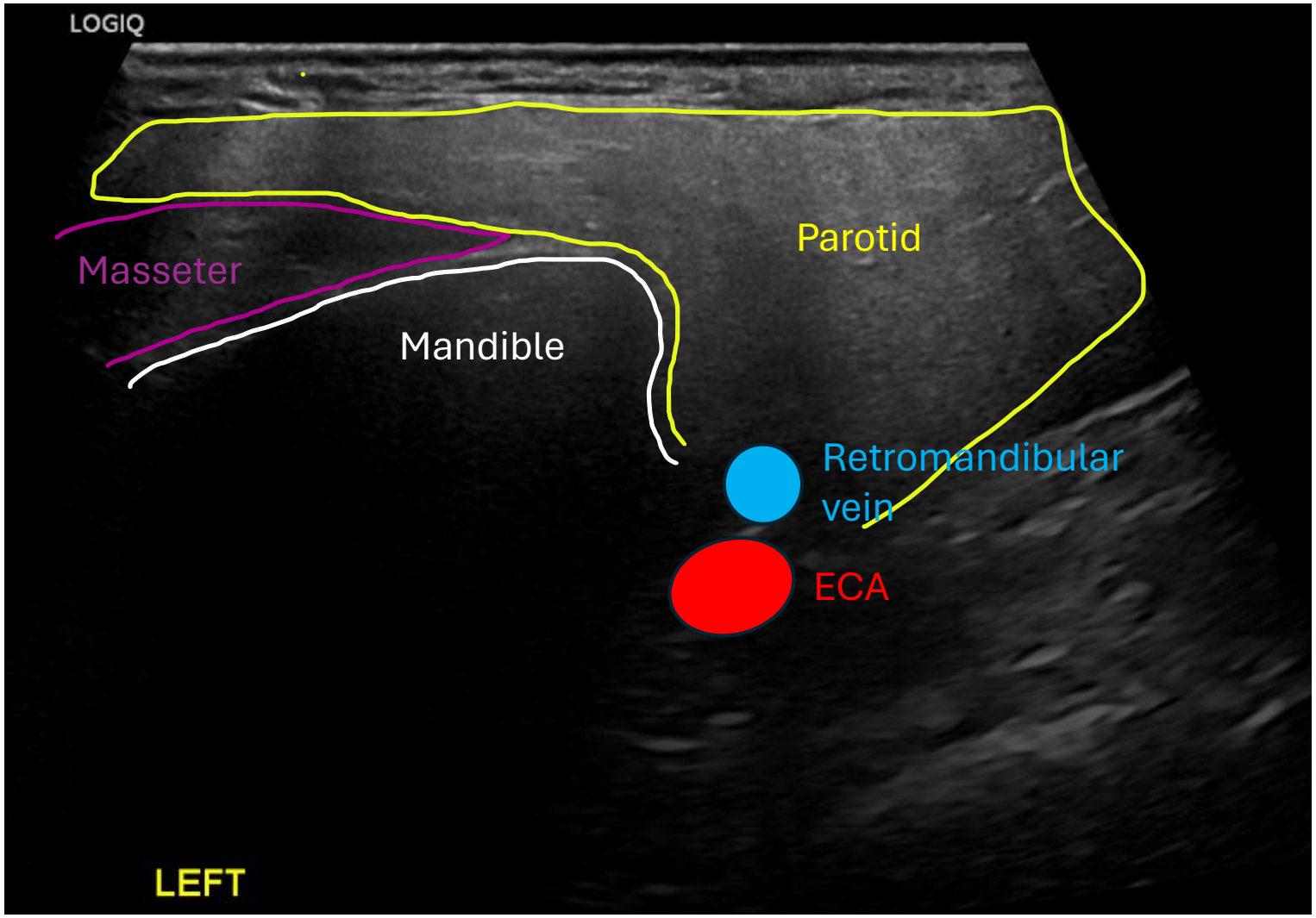
Consultant Head and Neck Radiologist

University Hospitals of Leicester

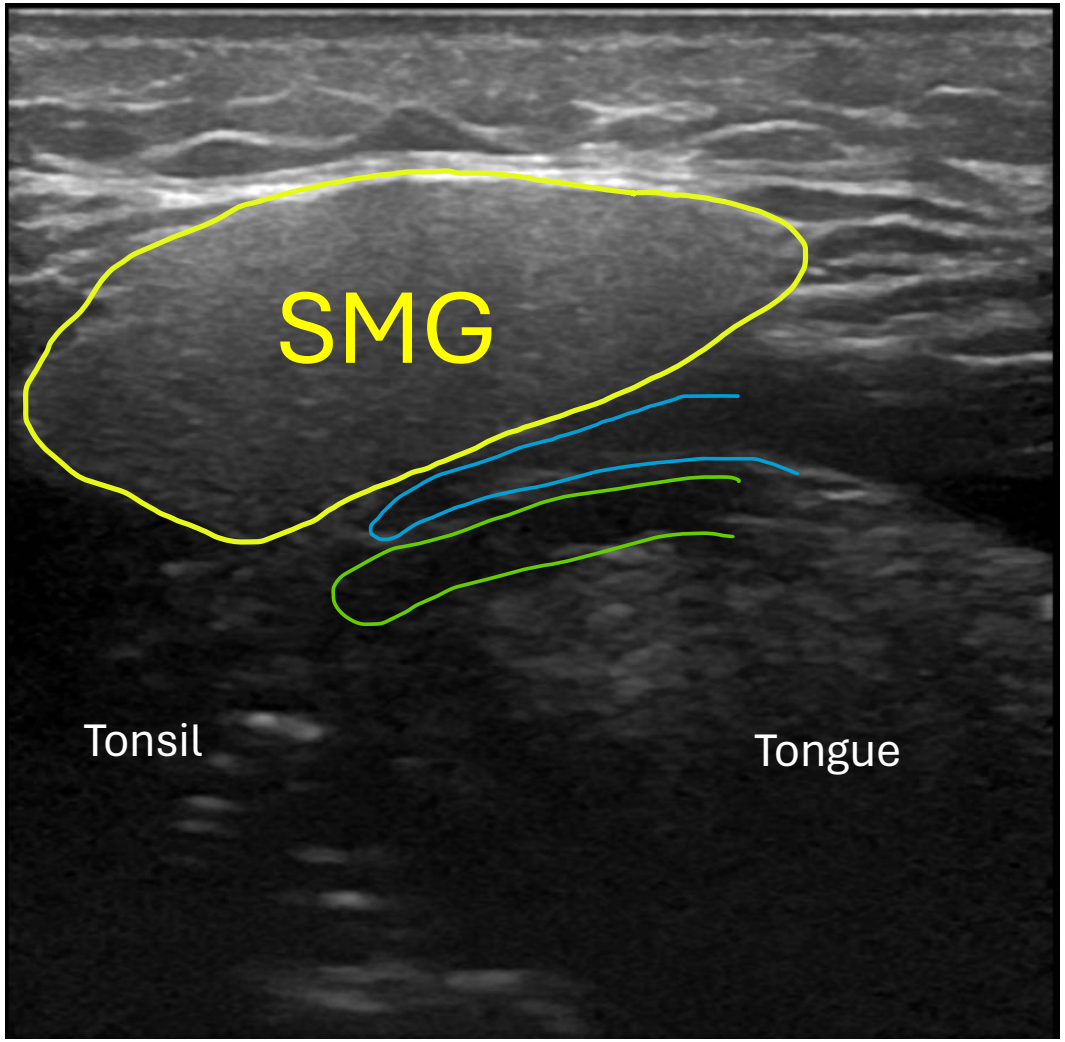
Aims

- Review normal anatomy
- Pathology

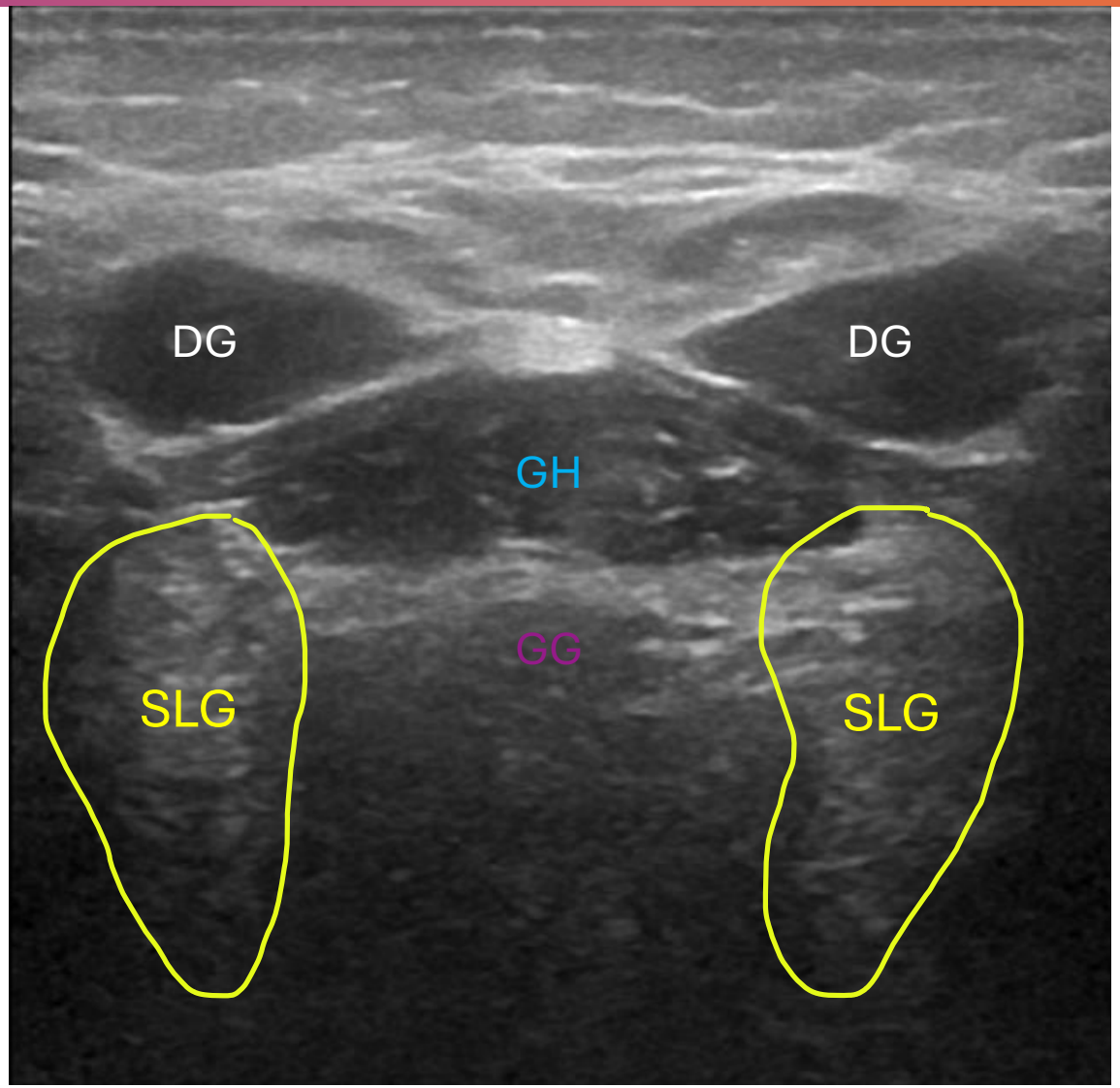
Parotid gland



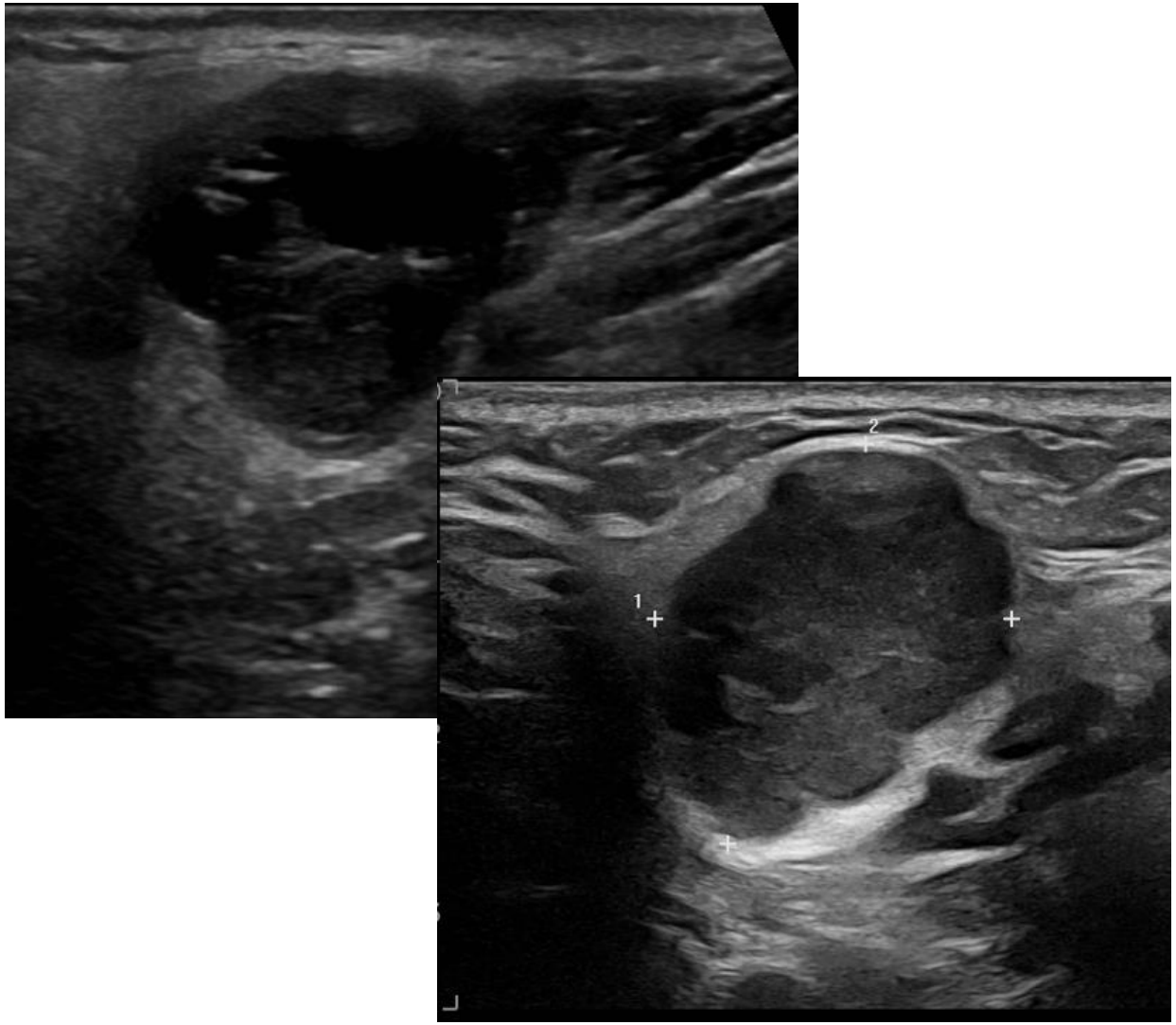
Submandibular gland



Sublingual gland

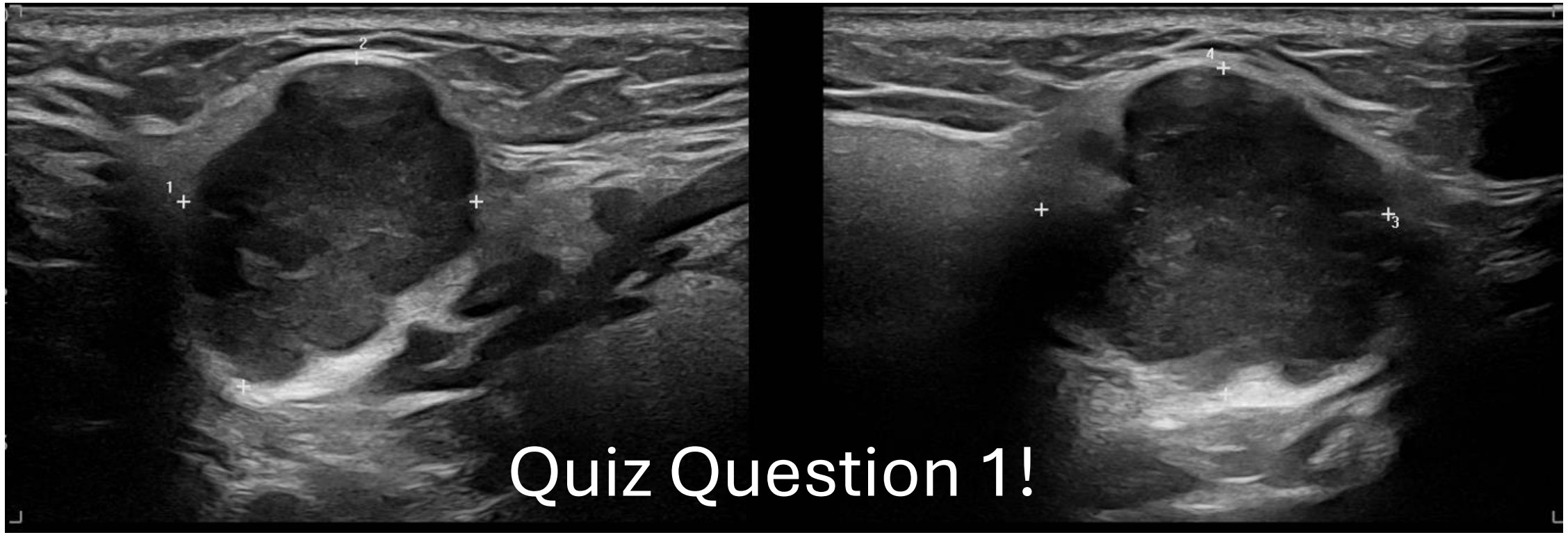


Benign neoplasms

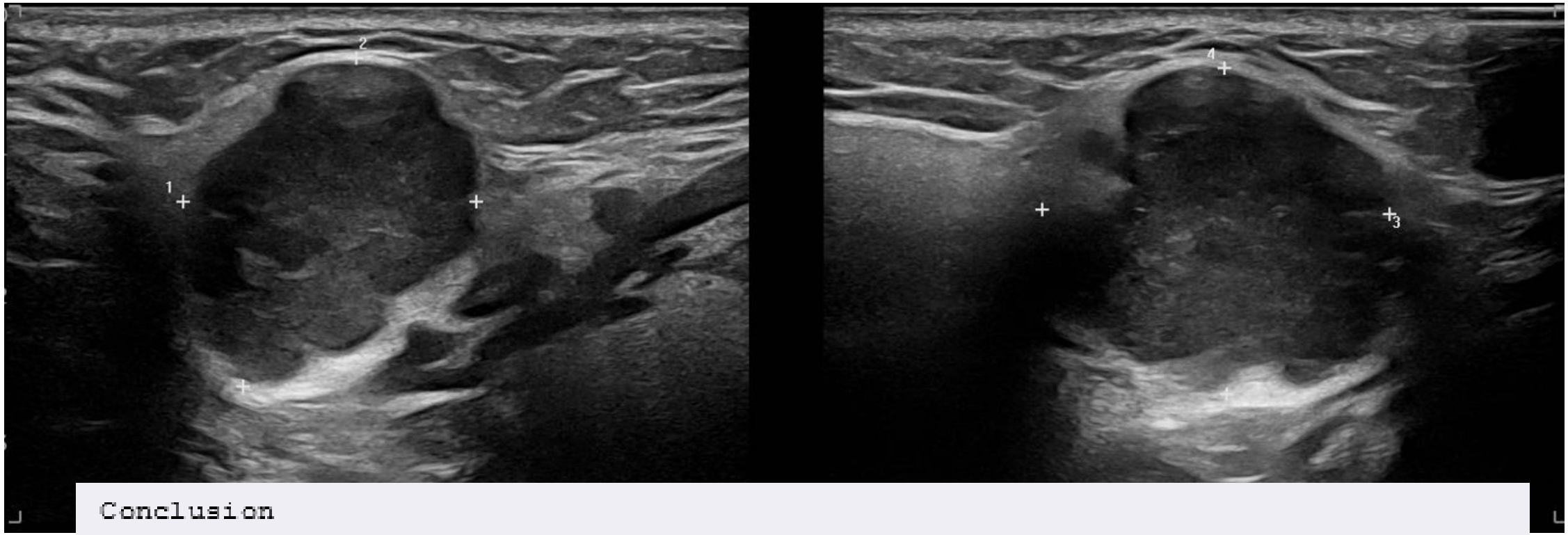


- Slow growing
- Painless
- 70-80% neoplasms = benign
- Mostly in parotid
- No pathognomonic features

46F presented with 3/12 of slow growing right jaw lesion



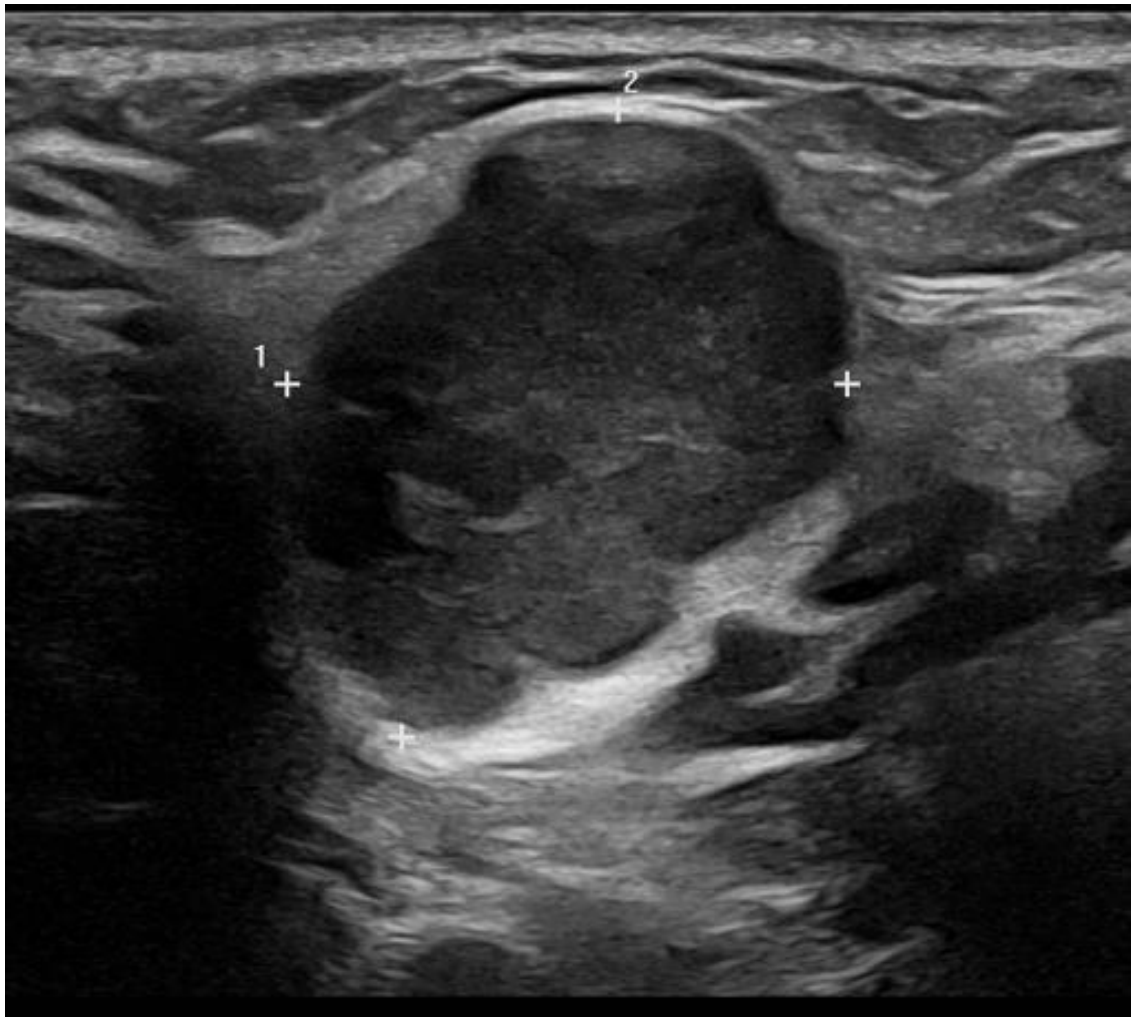
46F presented with 3/12 of slow growing right jaw lesion



Conclusion

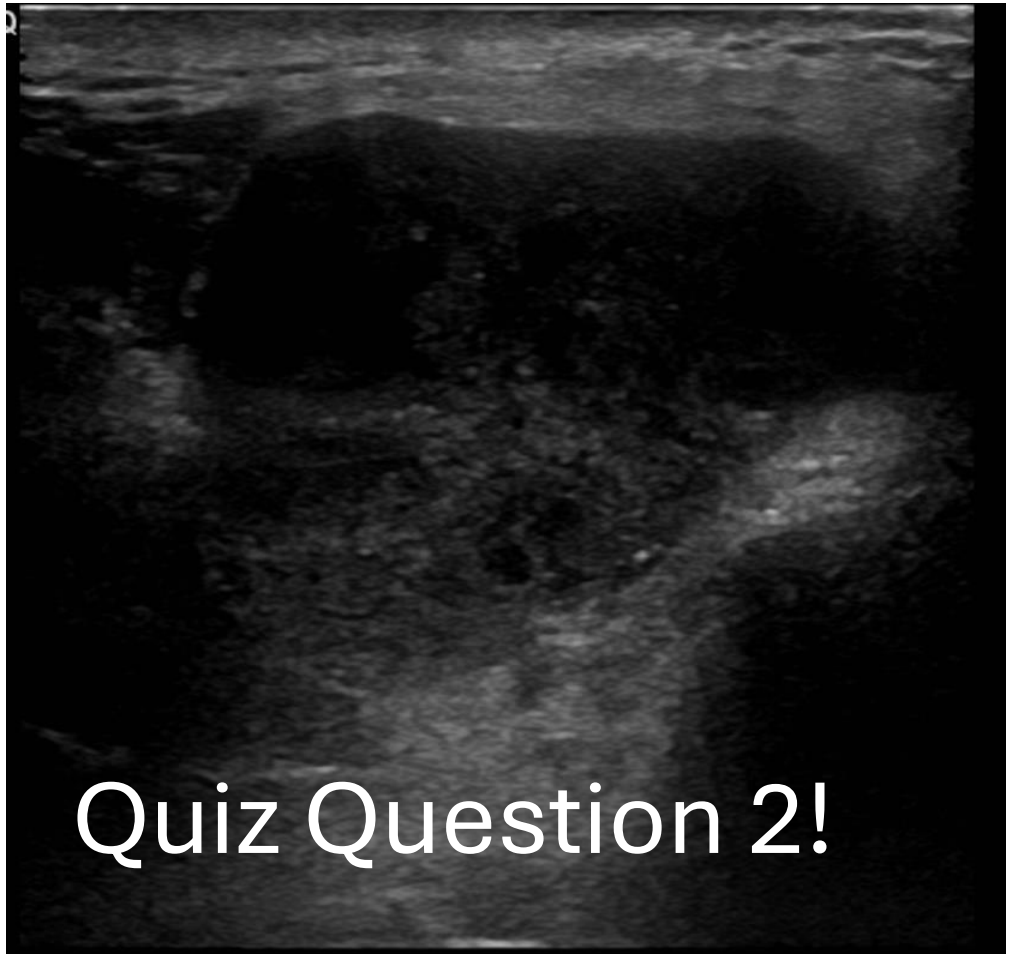
FNA right parotid gland - scanty specimen; features suggestive of a stroma-rich pleomorphic salivary adenoma; Milan Classification IVA (please see comments).

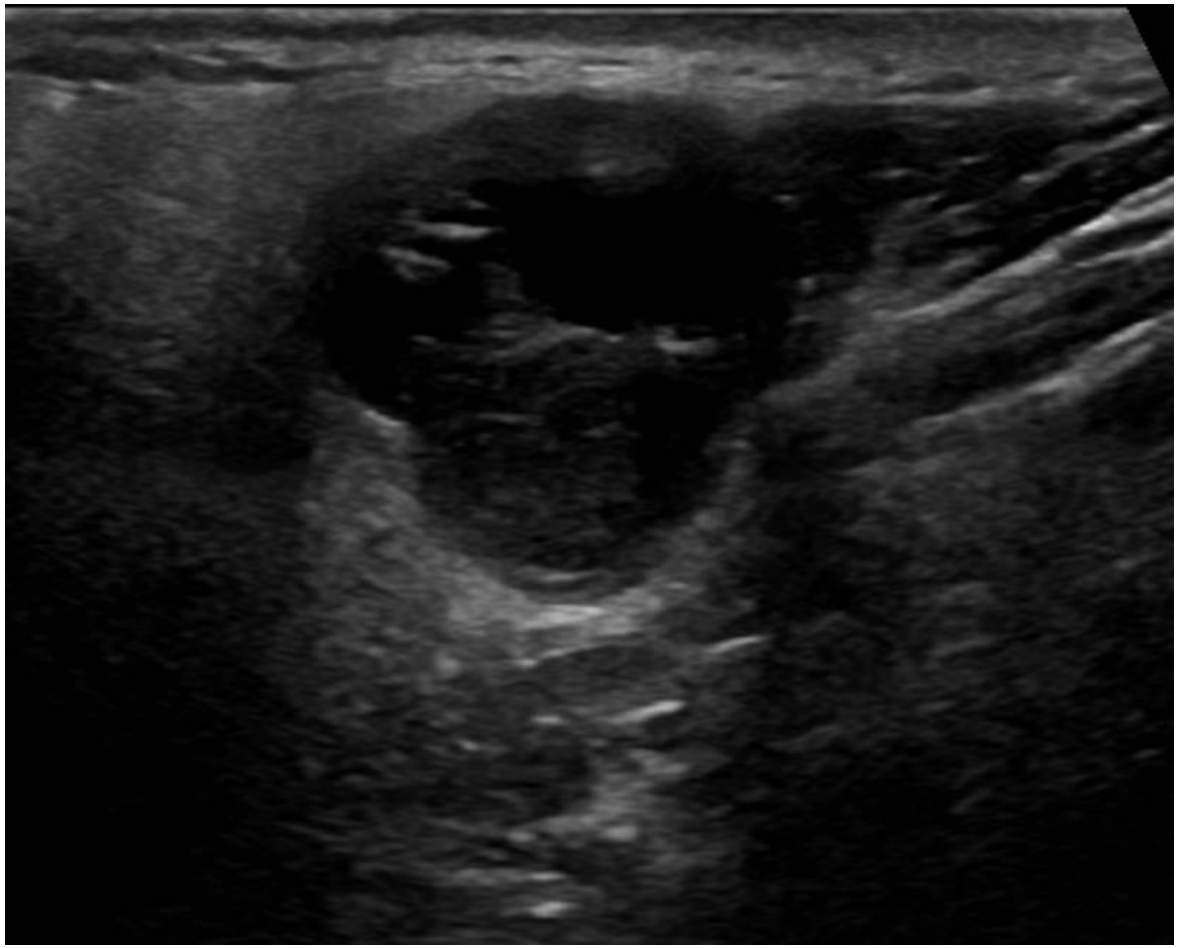
Pleomorphic adenoma



- 40-50 yo
- F>M
- Lobulated, well defined
- Poor/absent vascularity

63M, 2 year history of painless left cheek mass



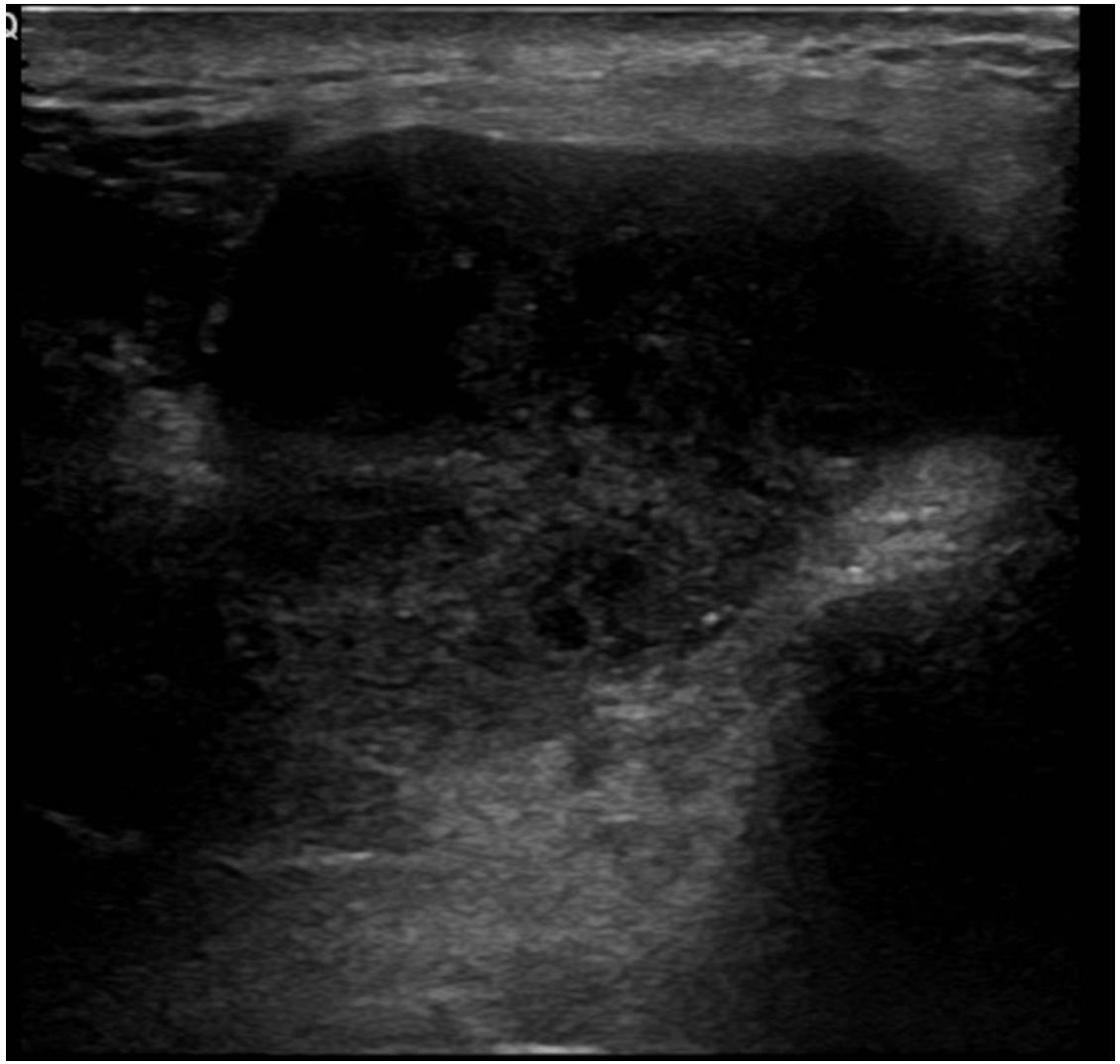


63M, 2 year history of painless left cheek mass, smoker

Conclusion:

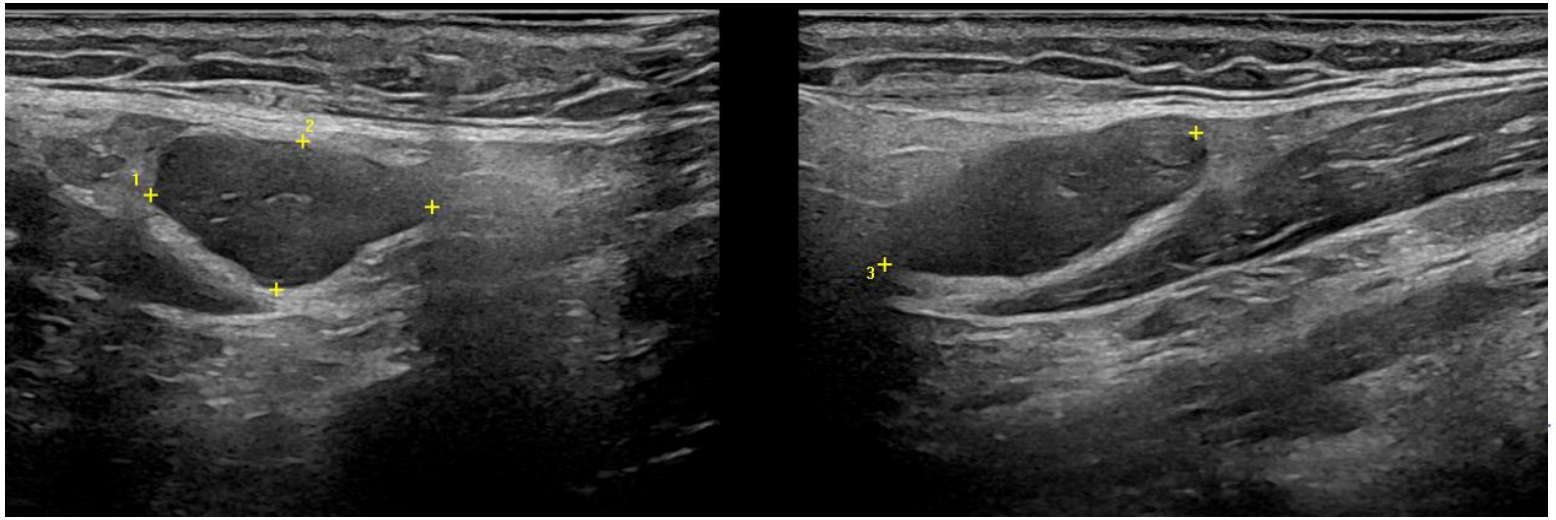
Right parotid gland - Features in keeping with a Warthin tumour.

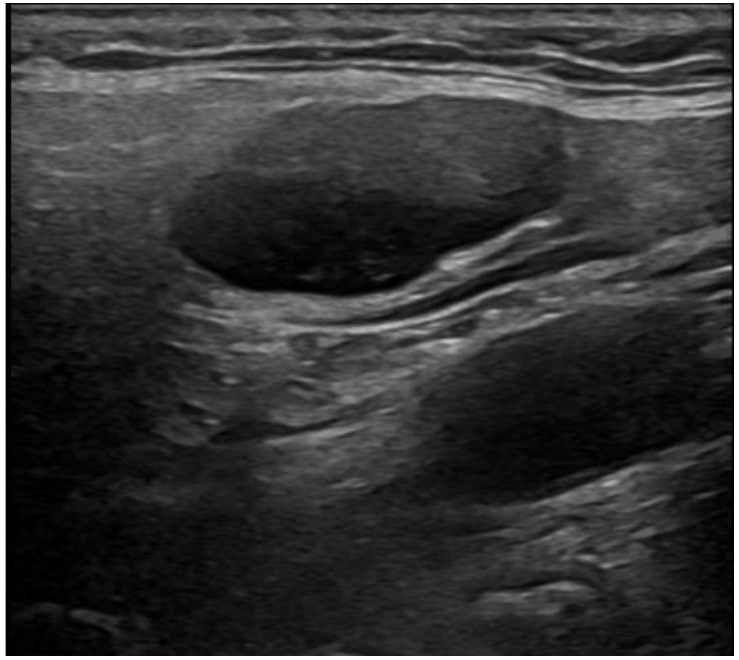
Warthin Tumour



- 50-60 yo
- M>F
- Smokers
- 10-60% multifocal/bilateral
- Oval, areas anechoic

75M, incidental lesion right parotid

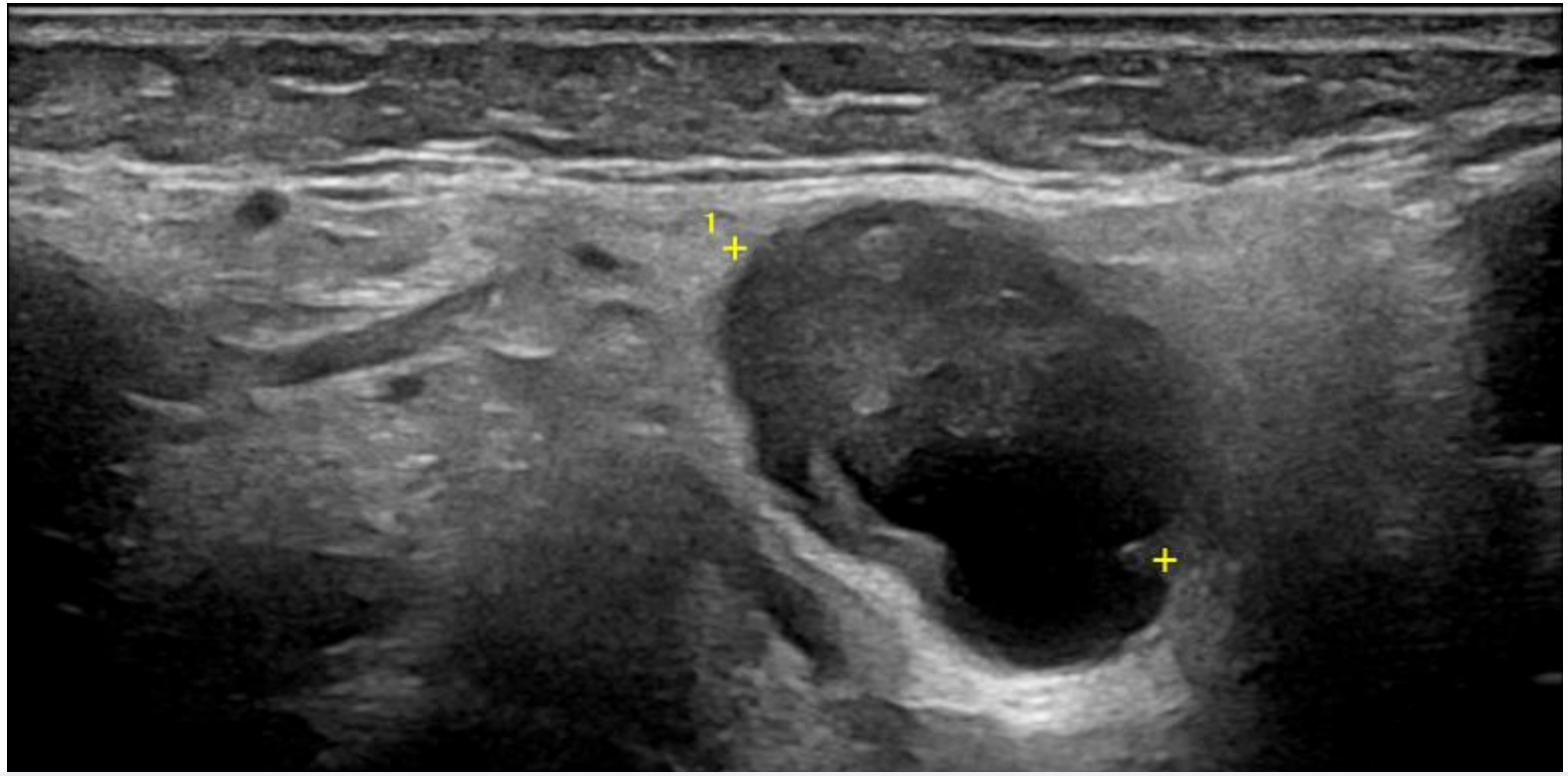




Conclusion:

FNA right parotid space lesion - reactive lymphoid cell population

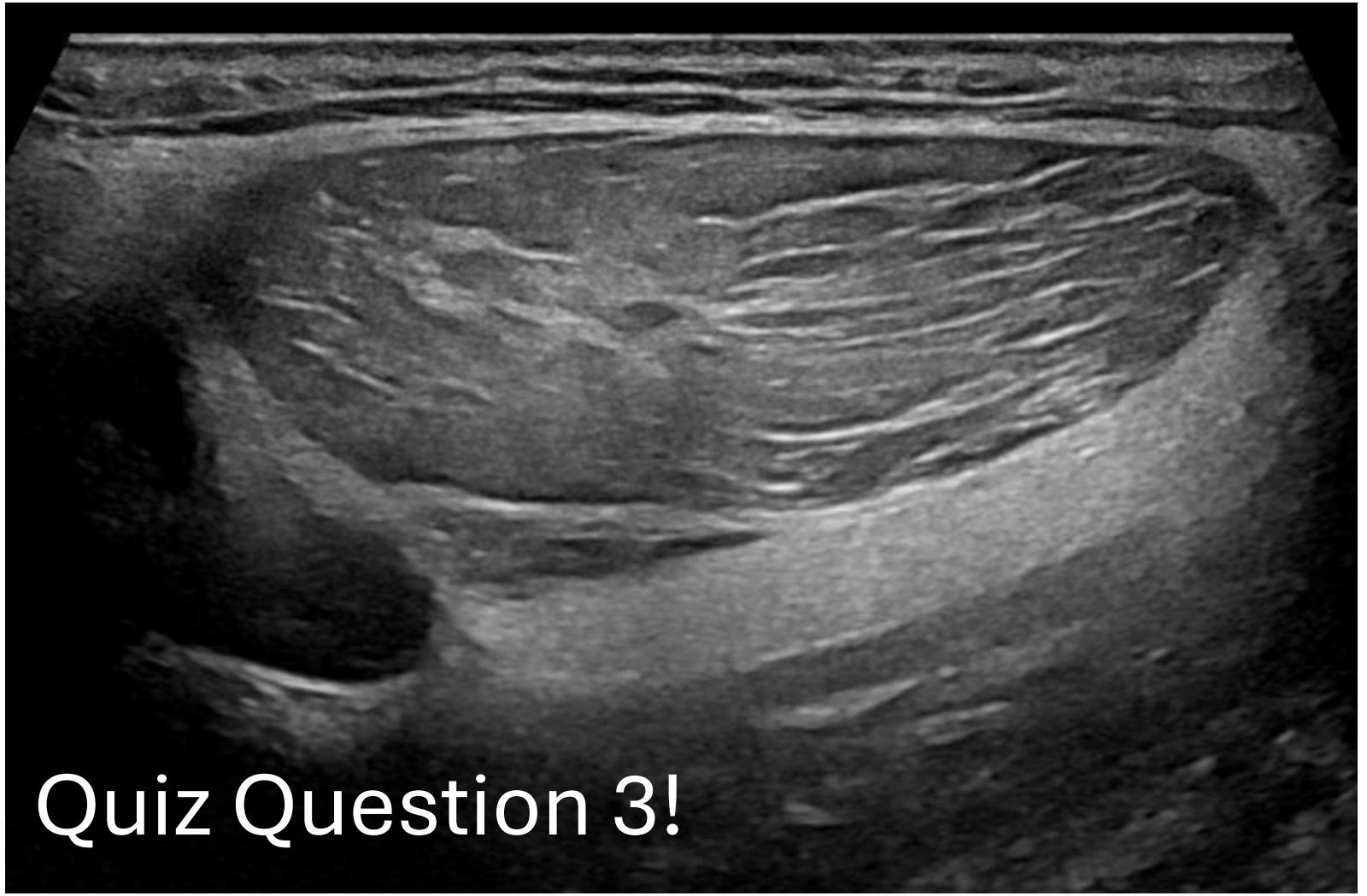
42F, sore throat, Epstein-Barr Virus positive



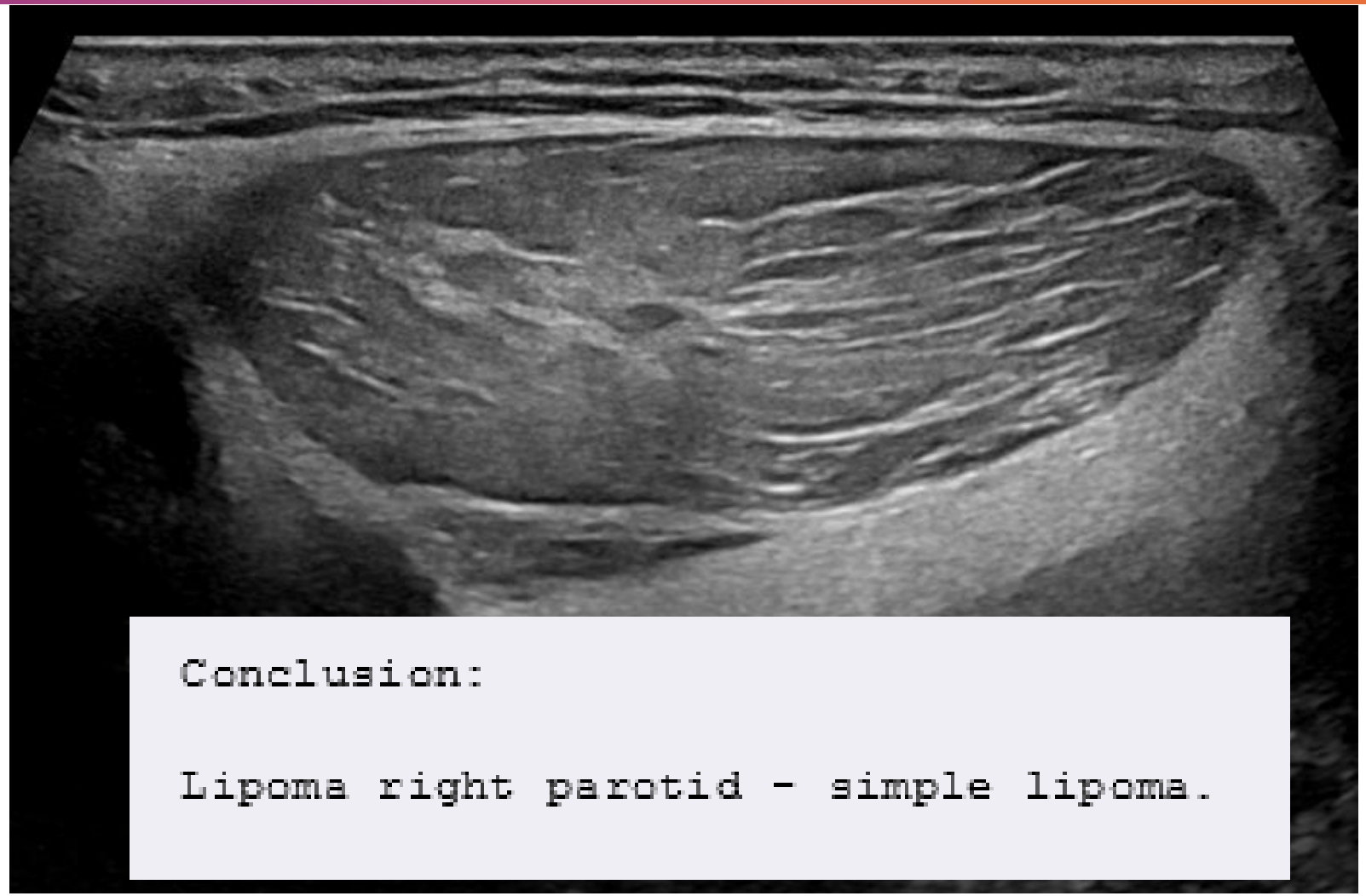
FNA left parotid lesion:

- Acute inflammation; no frankly malignant cells seen.

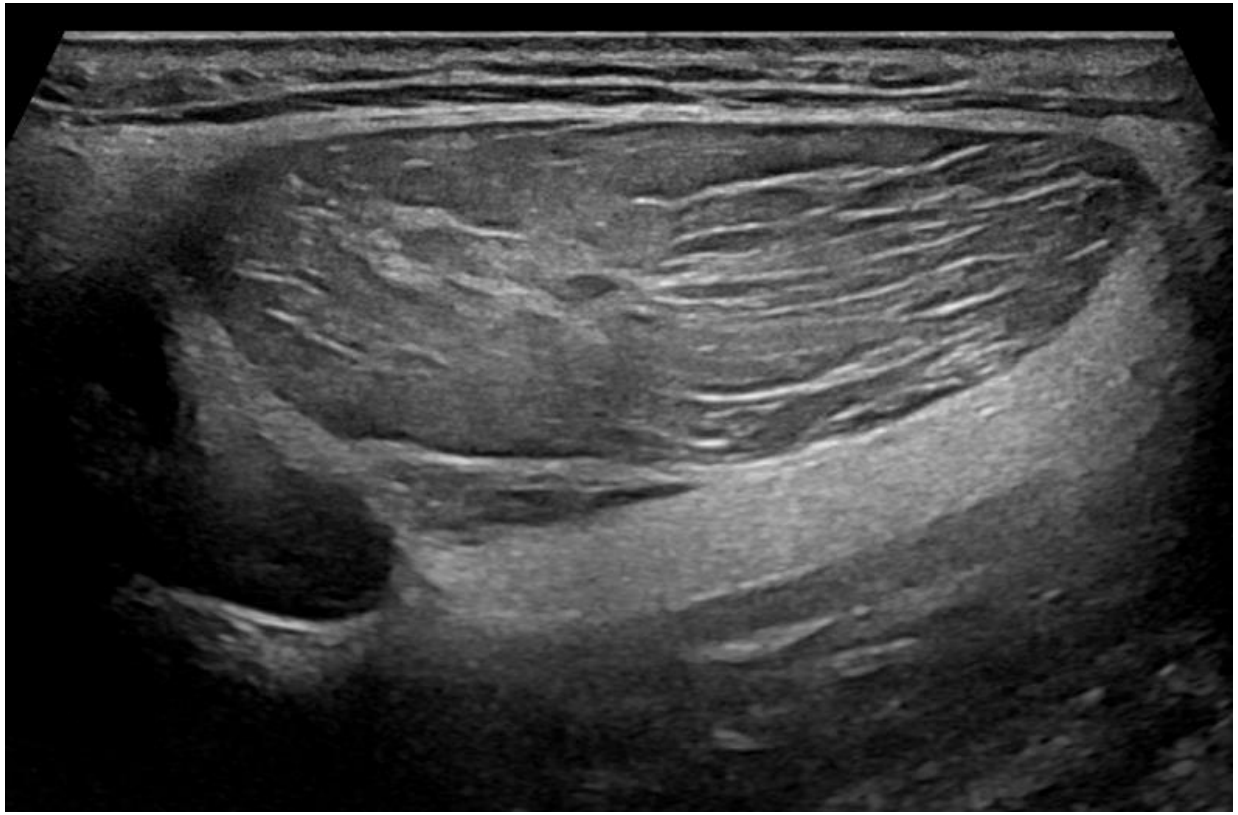
46M, slow growing mass right cheek



46M, slow growing mass right cheek

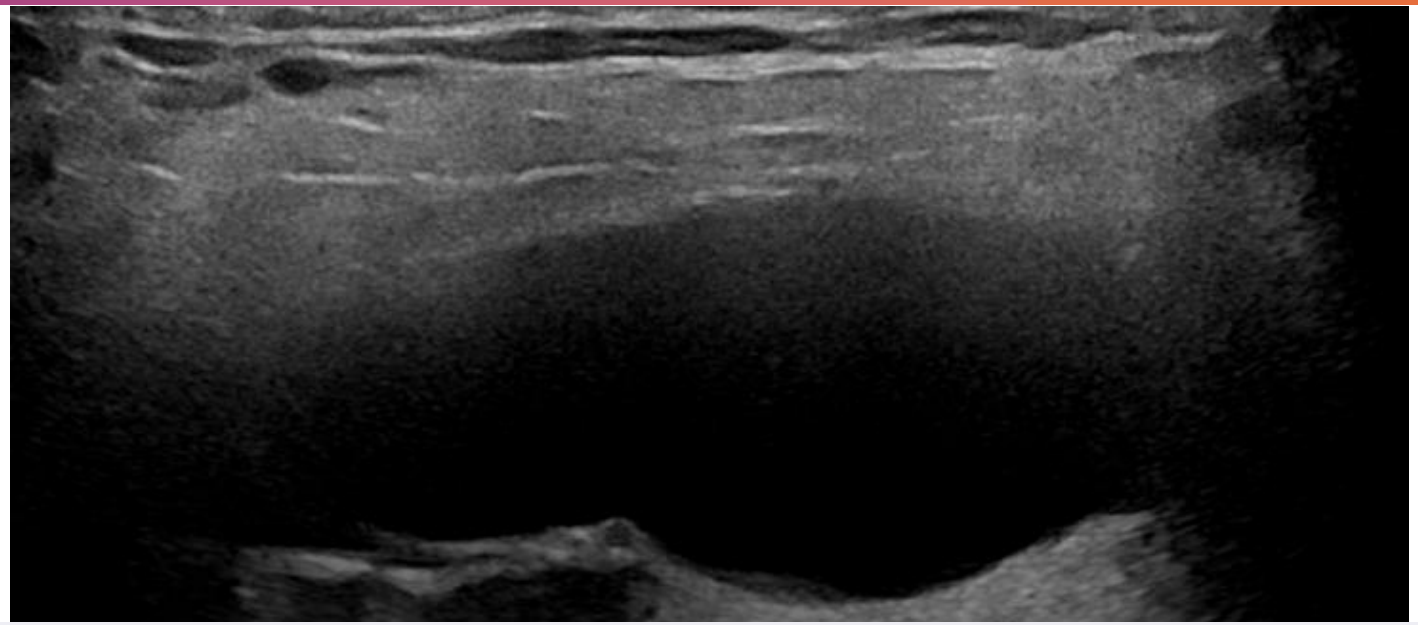


Lipoma



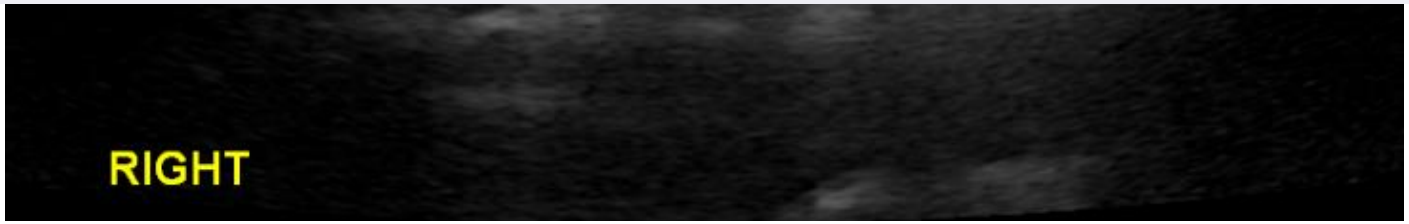
- Typically oval
- Sharp margins
- Striated hyperechoic
- Regular pattern

82M, slow growing cheek mass

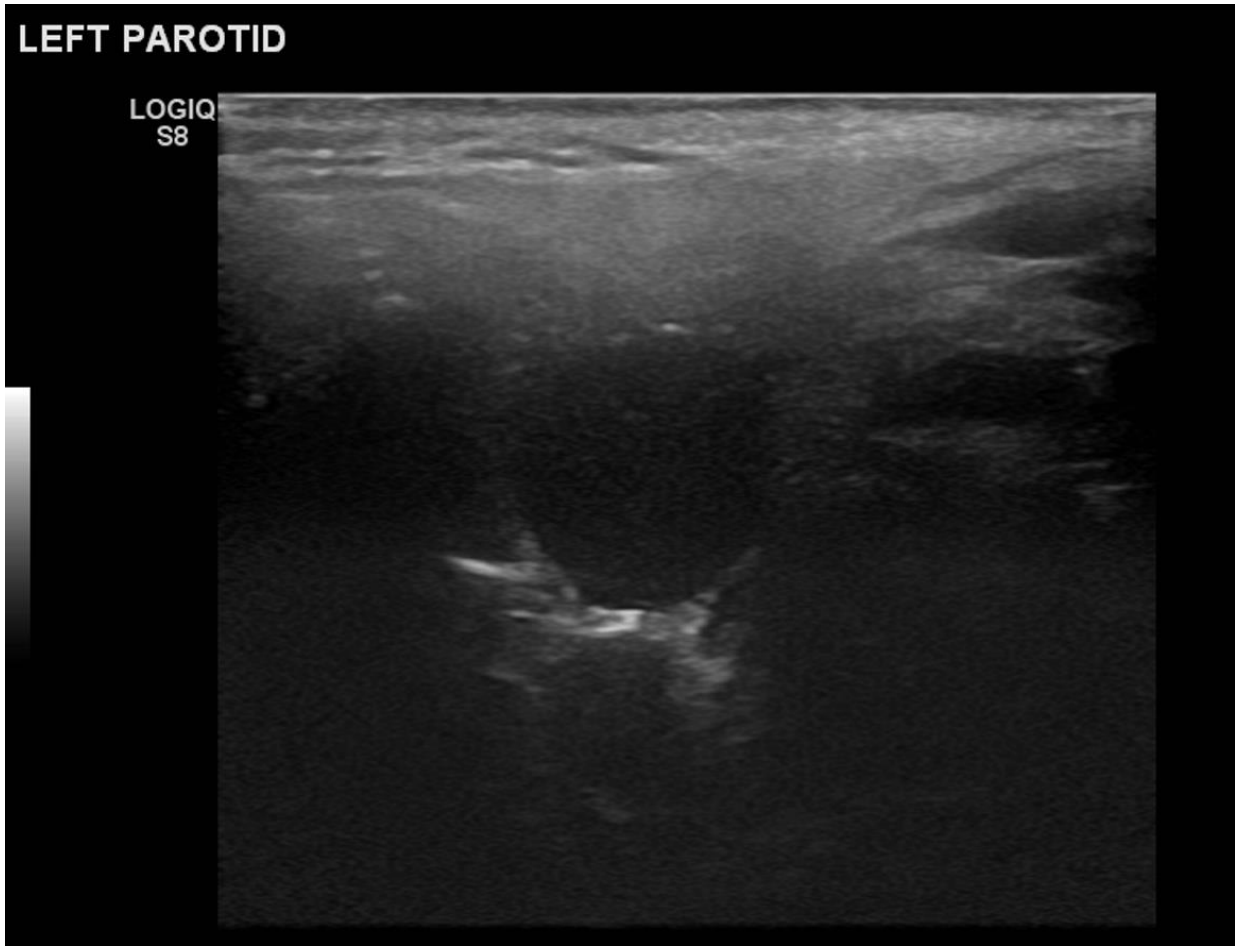


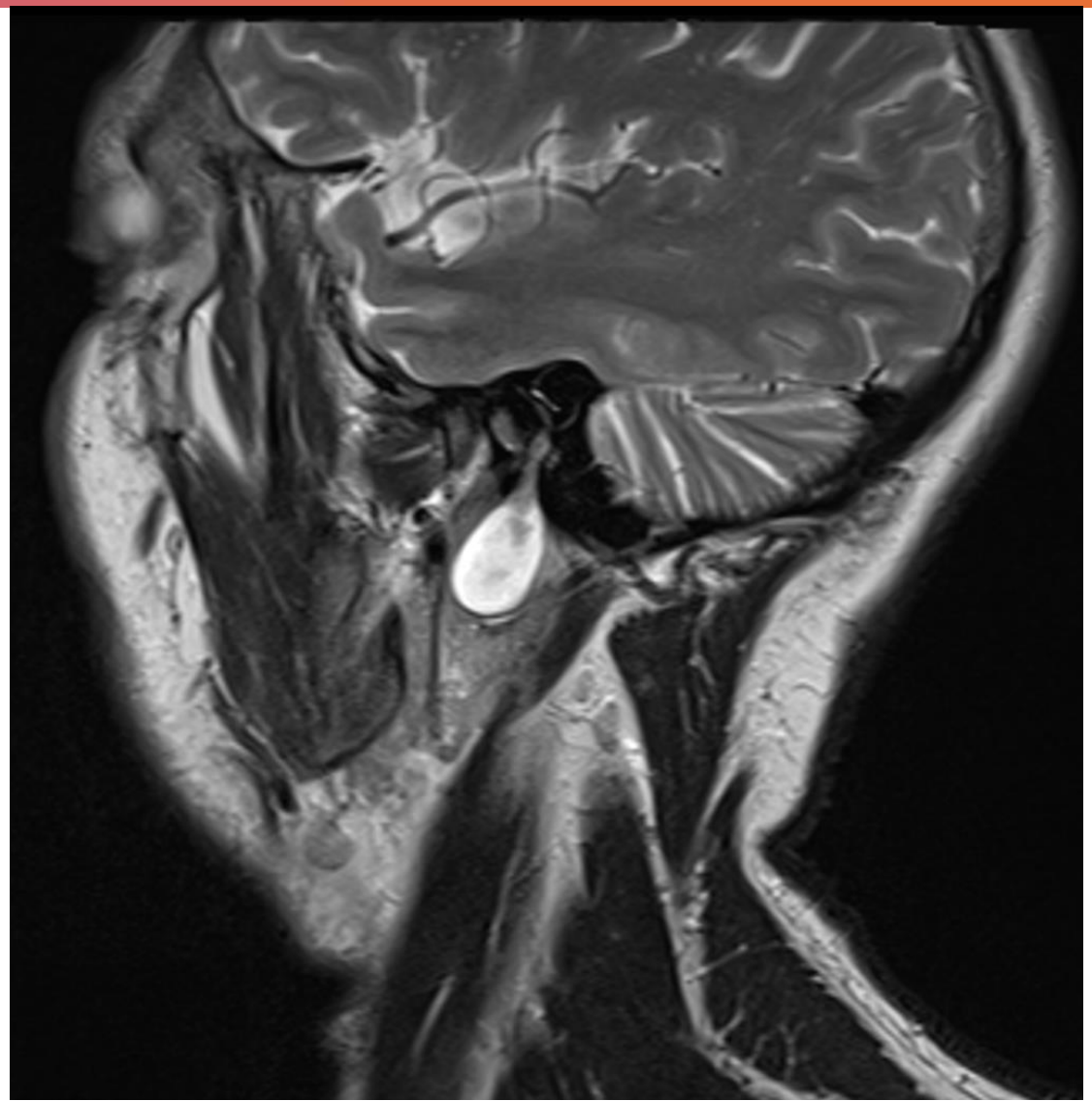
Conclusion:

Right parotid cyst, needle aspirate - Milan I - non-diagnostic, non-mucinous cyst contents, see comment.

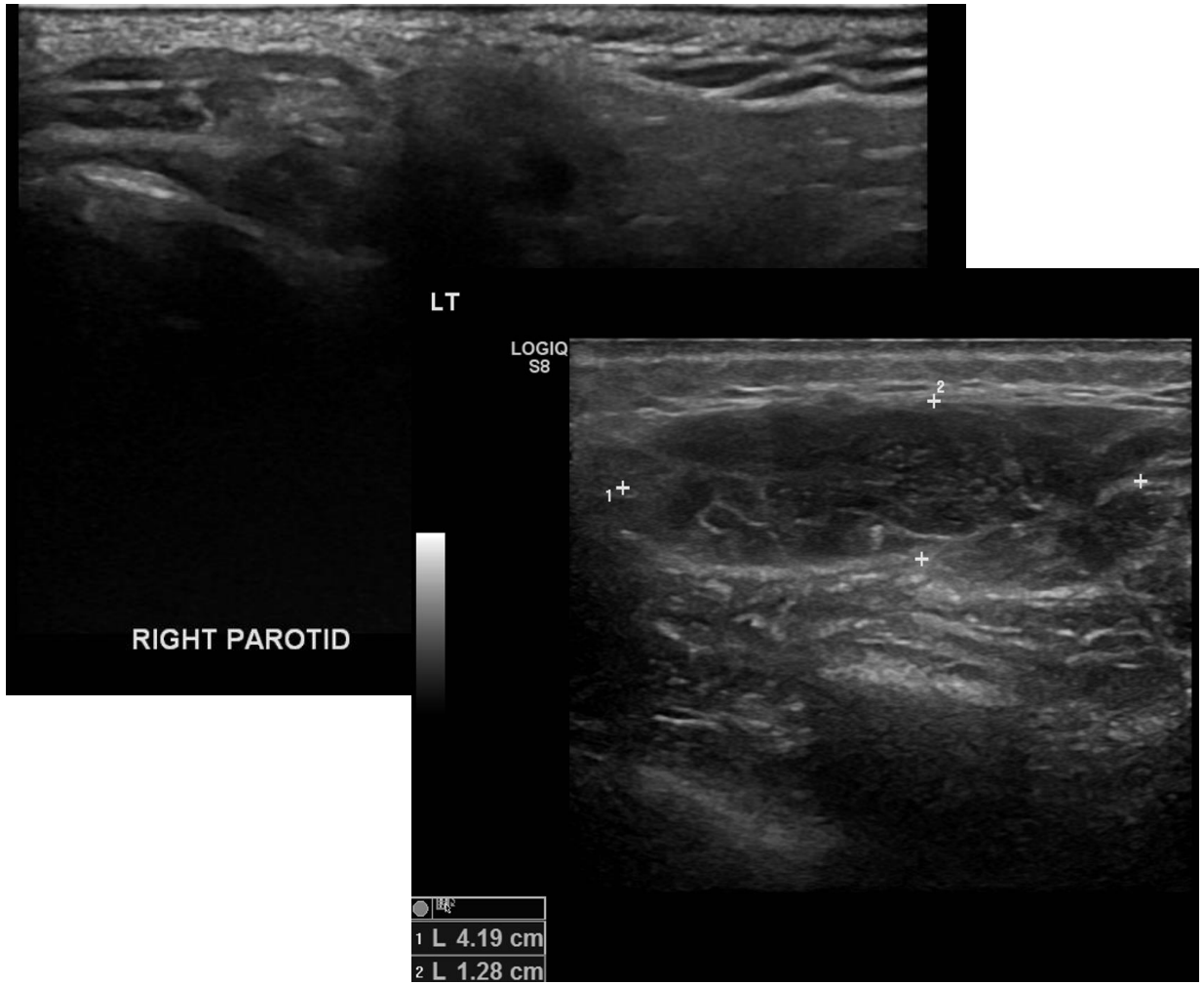


59M, incidental lesion on MRI neck





Quiz 4. Malignant neoplasms – which of these statements is true?

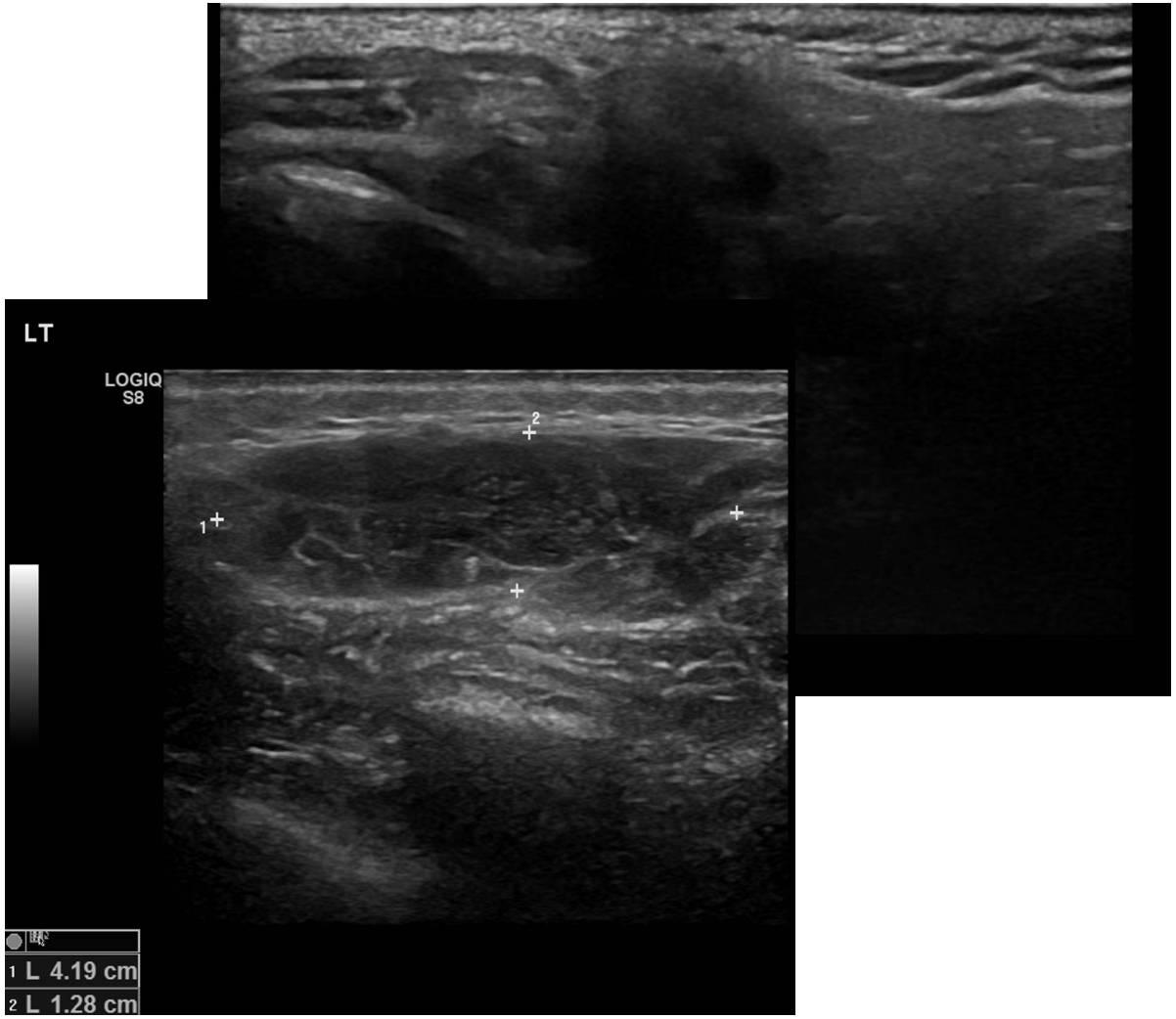


1. Mucoepidermoid carcinoma is one of the most common malignant neoplasms involving the salivary glands

2. Nearly 80% of focal SMG lesions are malignant

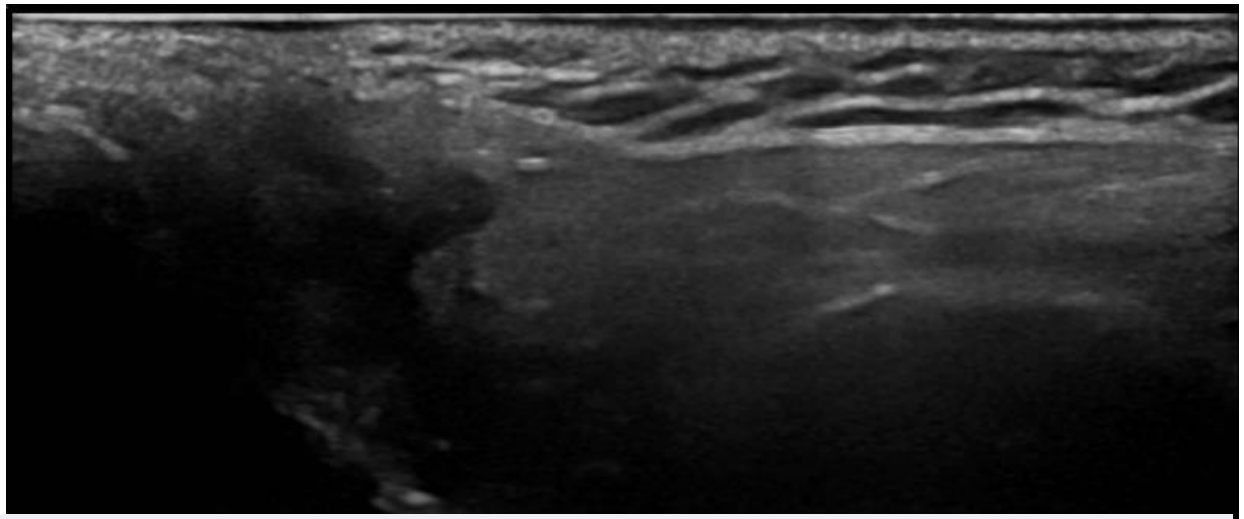
3. Facial nerve palsy is a reassuring sign

Malignant neoplasms



- Mucoepidermoid, adenoid cystic > SCC, acinic cell, adenocarcinoma
- SMG (50%) > Parotid (30%)
- Facial nerve palsy is worrying
- May be painful
- Can grow rapidly

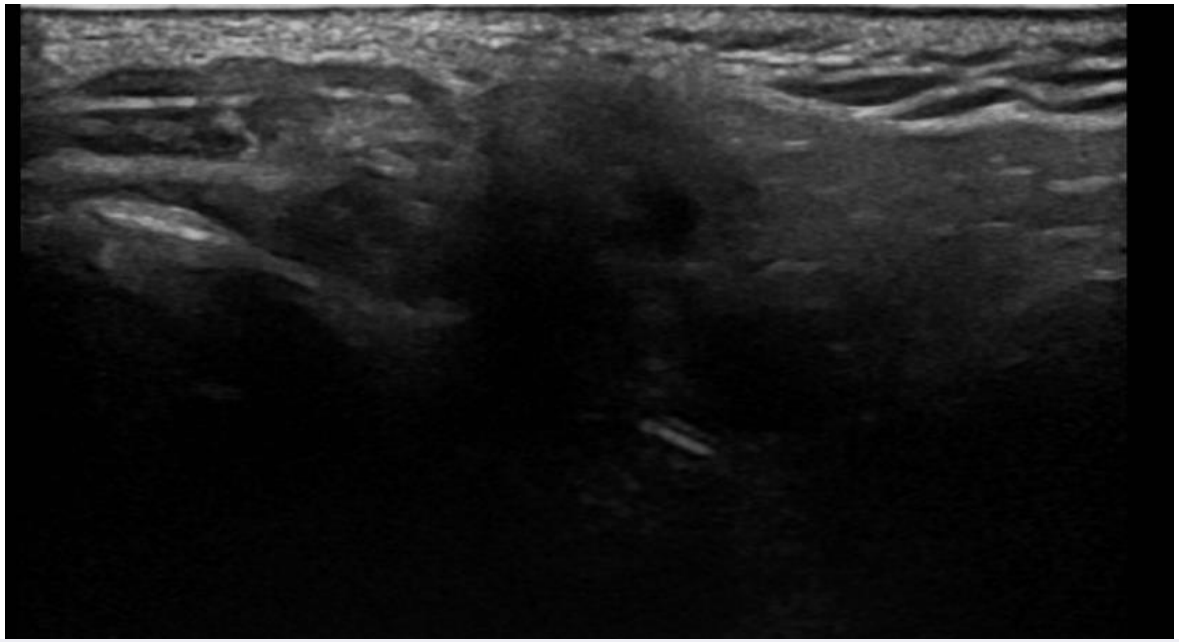
48F, right facial droop, gradual onset, painful



Conclusion:

Core biopsy right parotid - adenoid cystic carcinoma

Adenoid Cystic Carcinoma

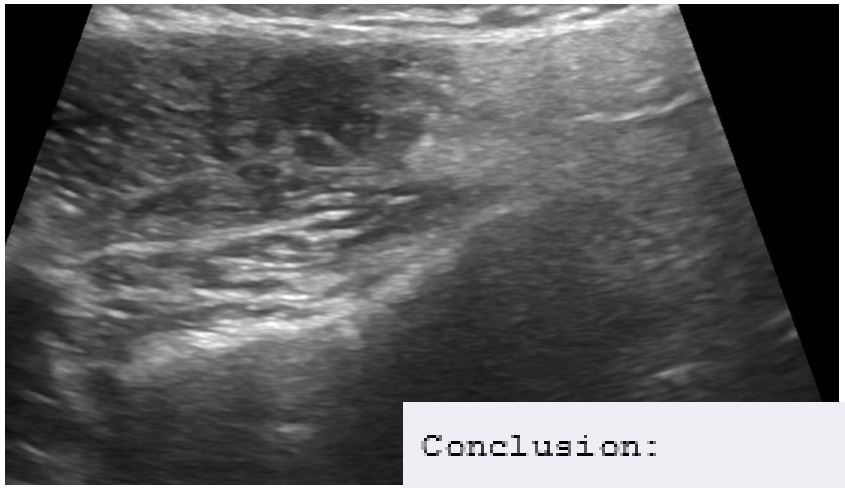


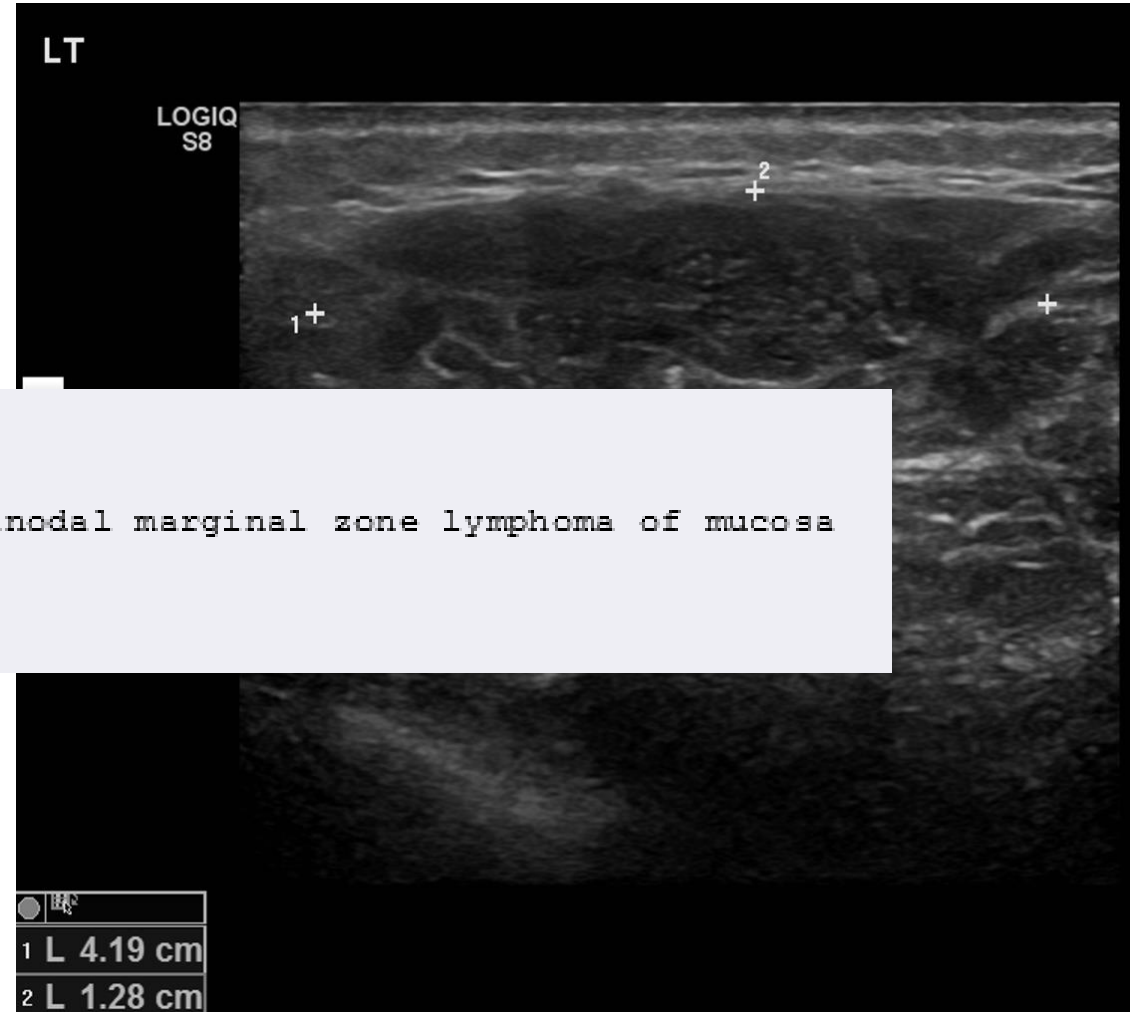
```
Conclusion:

Core biopsy right parotid - adenoid cystic carcinoma
```

- Slow growing
- Tendency for nerve infiltration
- Late metastases

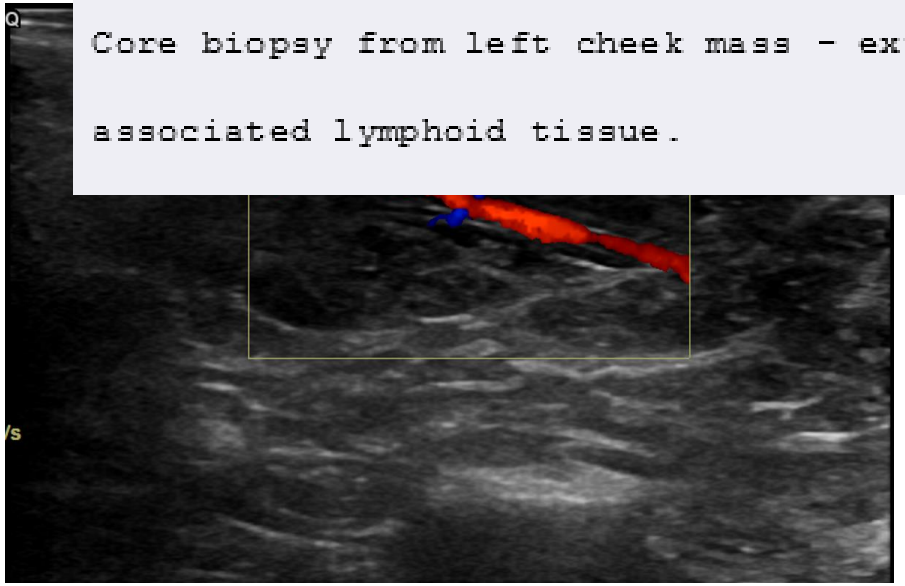
63M, left cheek mass



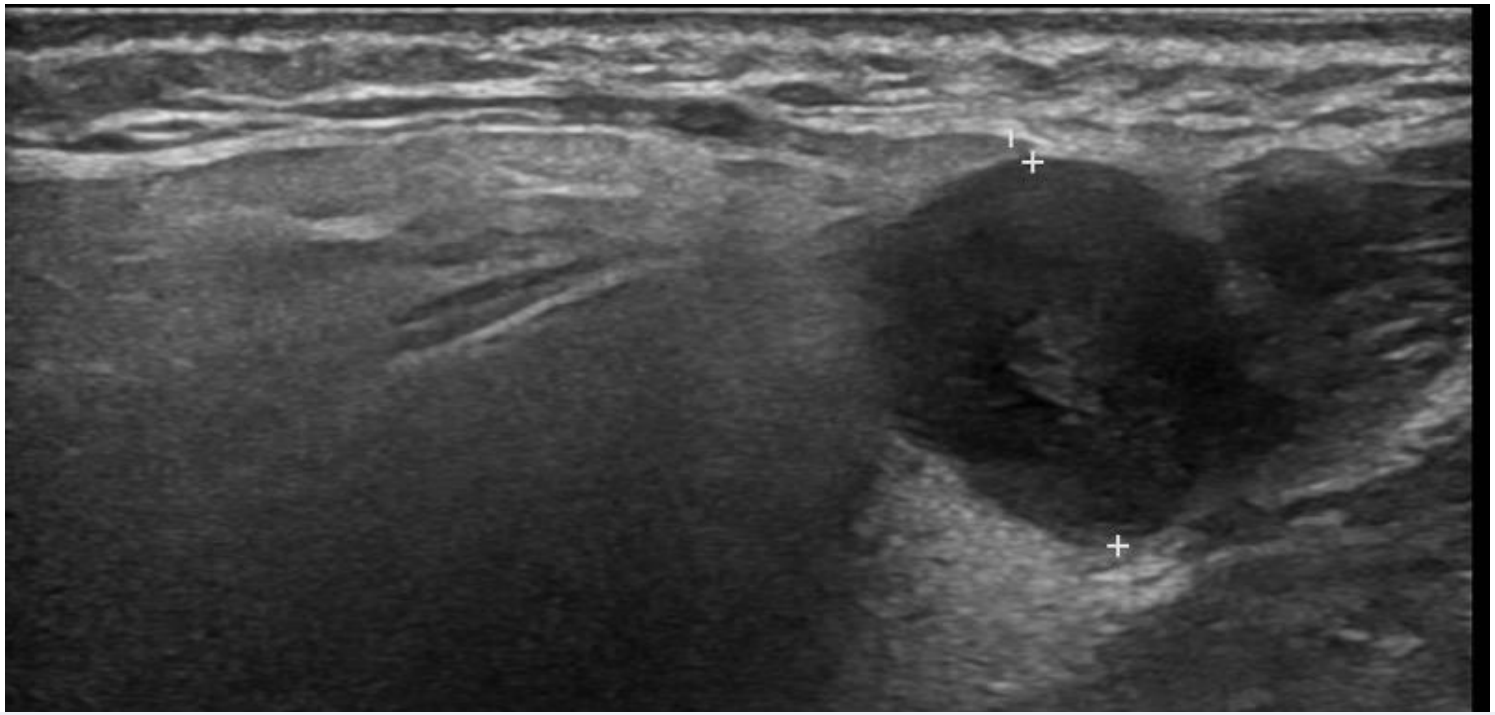


Conclusion:

Core biopsy from left cheek mass - extranodal marginal zone lymphoma of mucosa associated lymphoid tissue.



72M, previous left pinna resection for melanoma



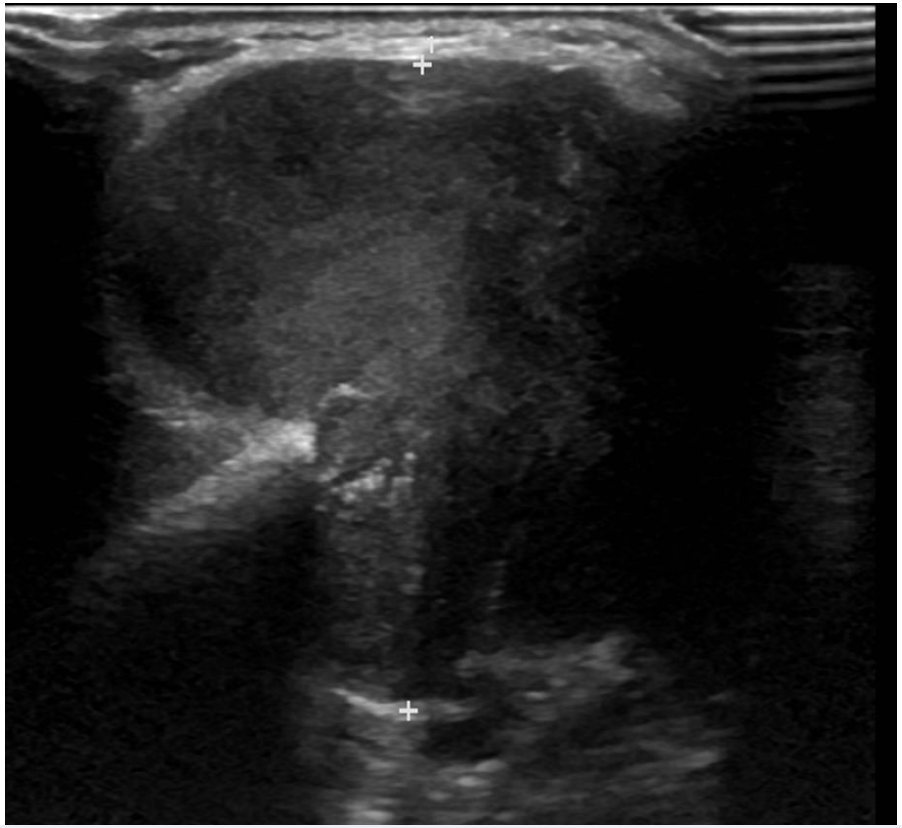
A. FNA left parotid tail – malignant, favouring metastatic malignant melanoma, pending further work.

Milan classification VI – malignant.

81F, previous parotidectomy, recurrent mass lesion

Conclusion

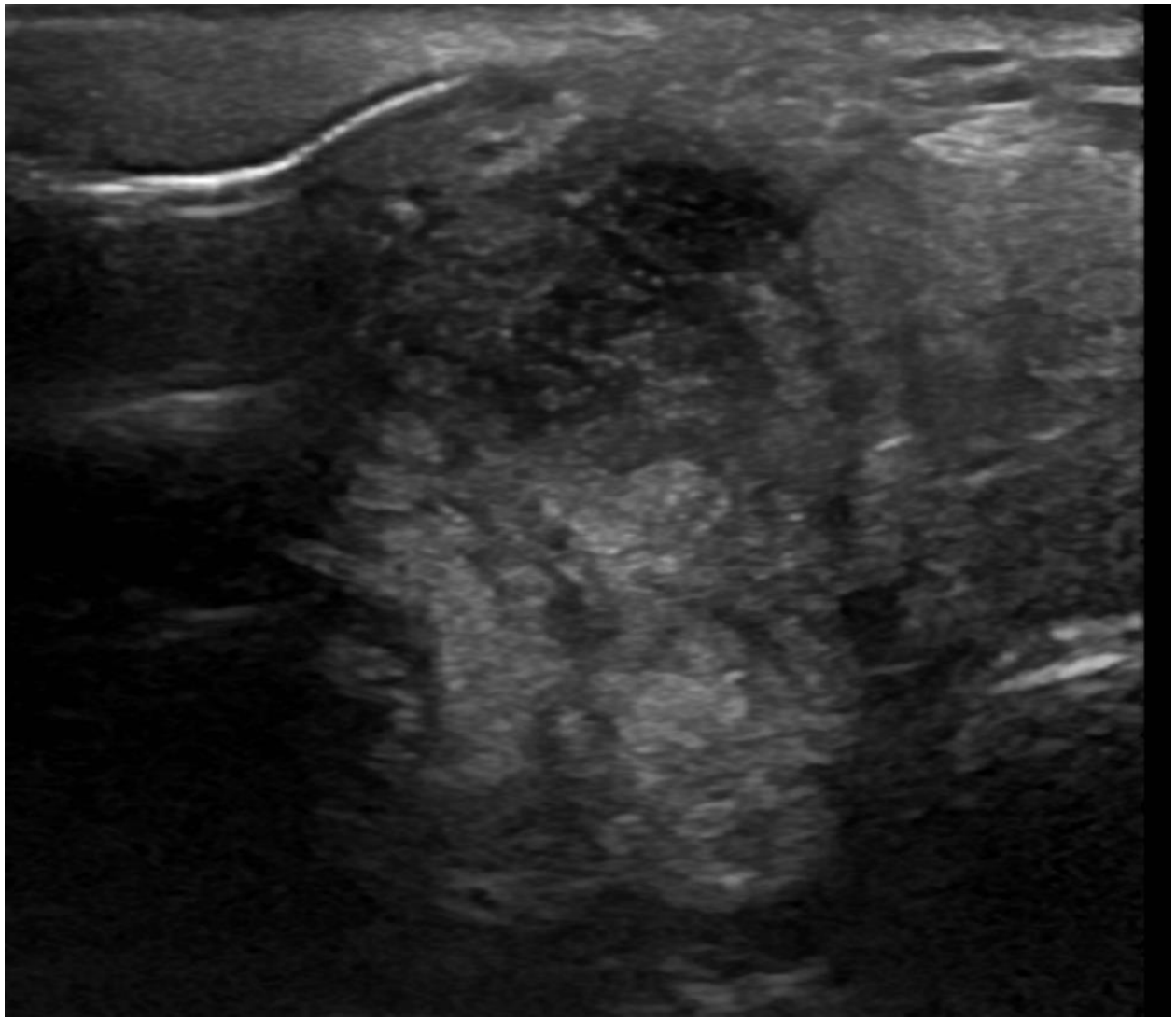
Left parotid FNA - features in keeping with pleomorphic salivary adenoma



Conclusion:

Left parotid gland - 51 mm carcinoma ex pleomorphic adenoma consistent with epithelial-myoepithelial carcinoma.

Quiz 5. Which of these statements is true?

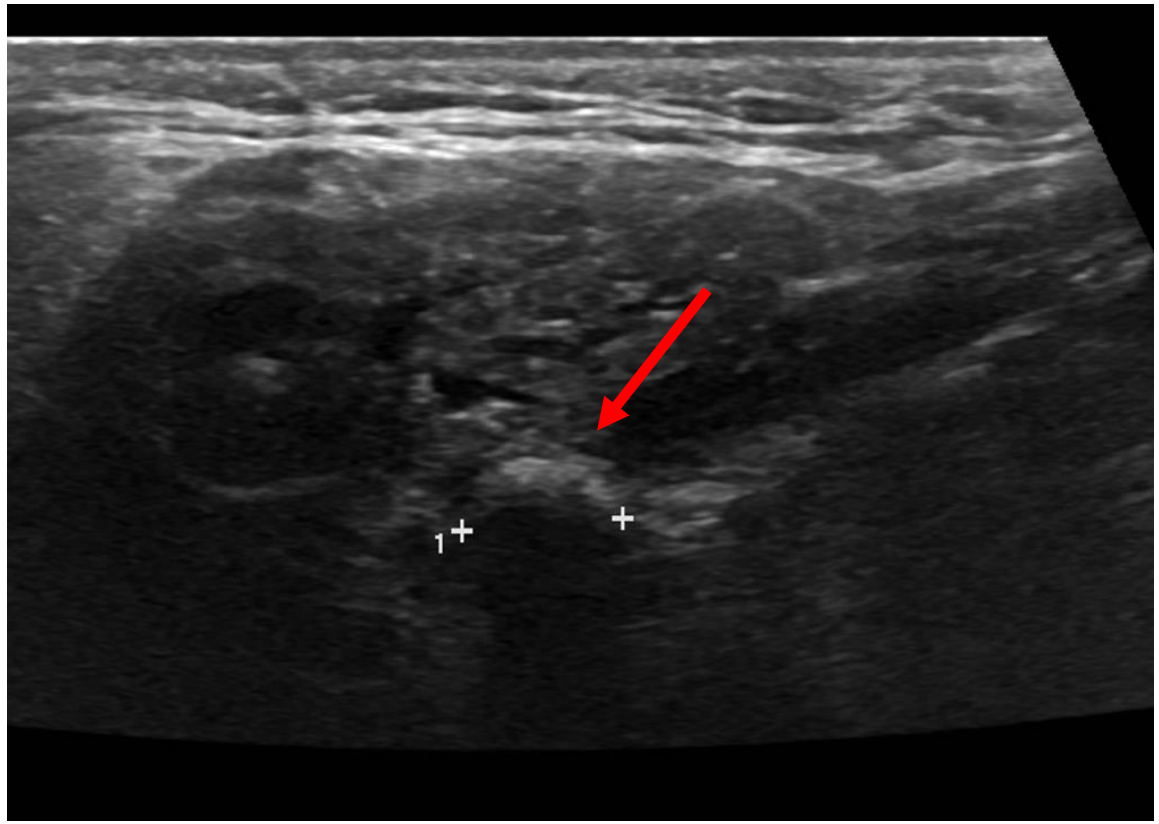


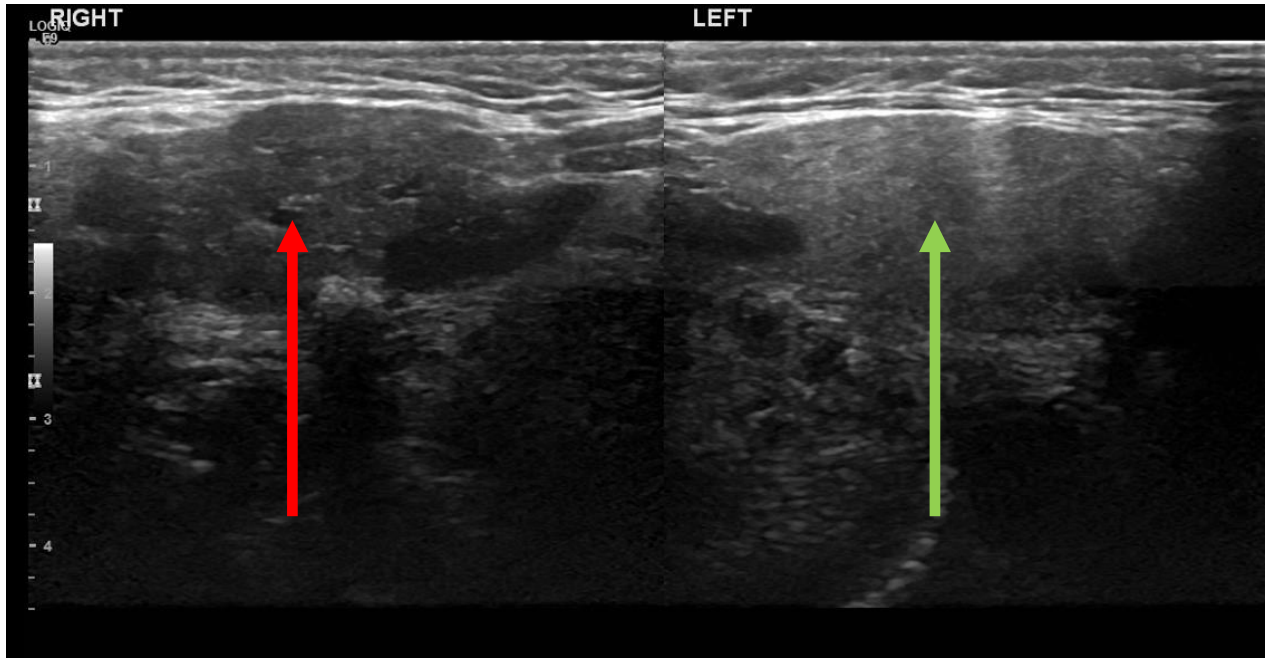
1. Salivary stones most commonly affect the parotid gland

2. Stones may cast an acoustic shadow

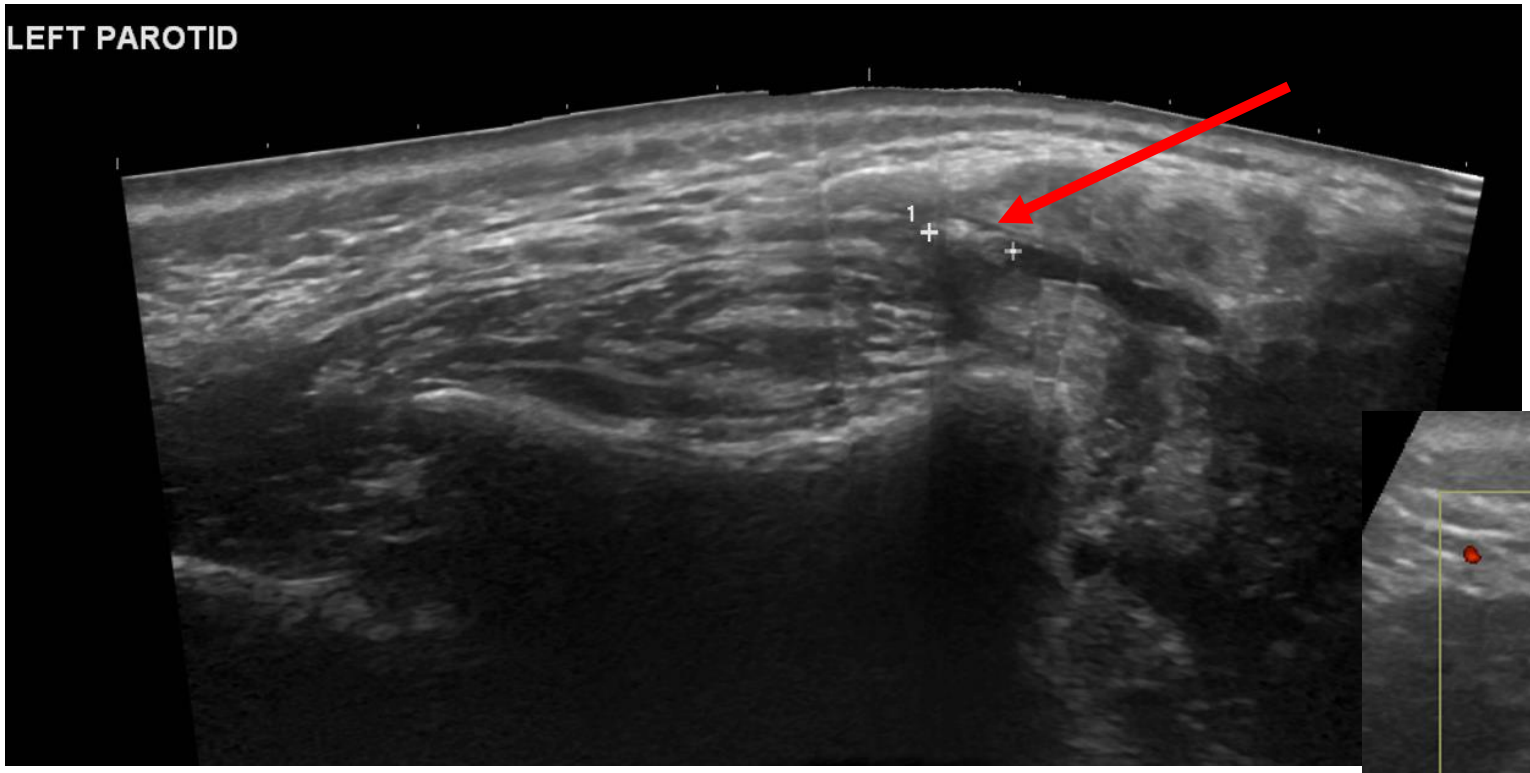
3. Stones are hypoechoic

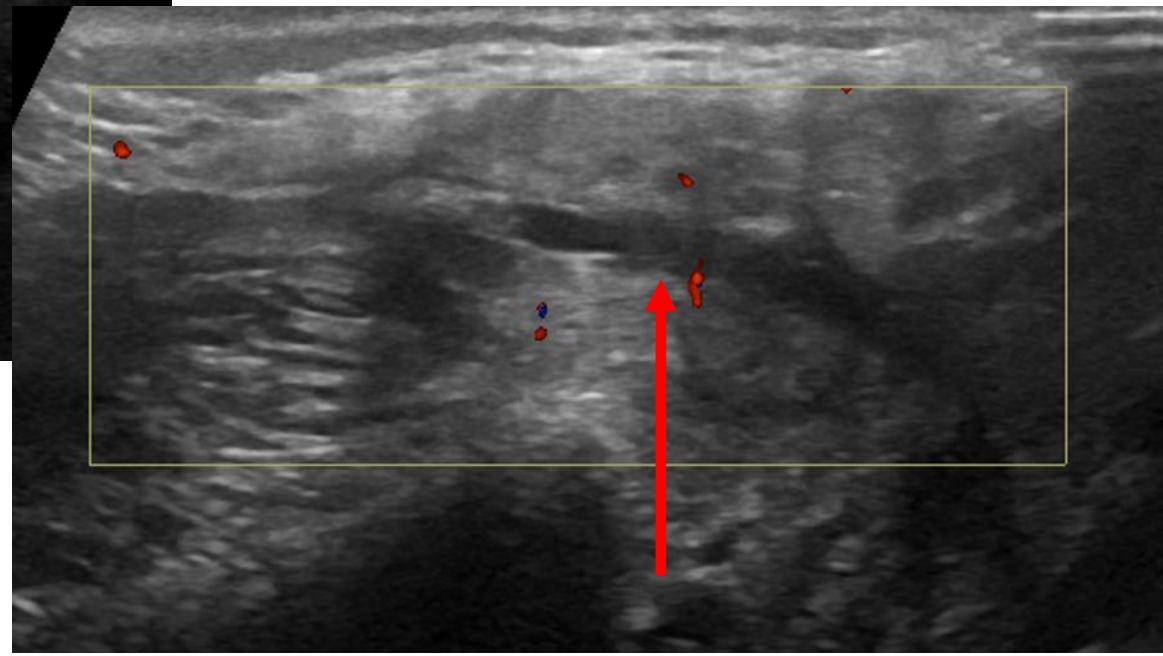
38M, 4/12 history right neck lump



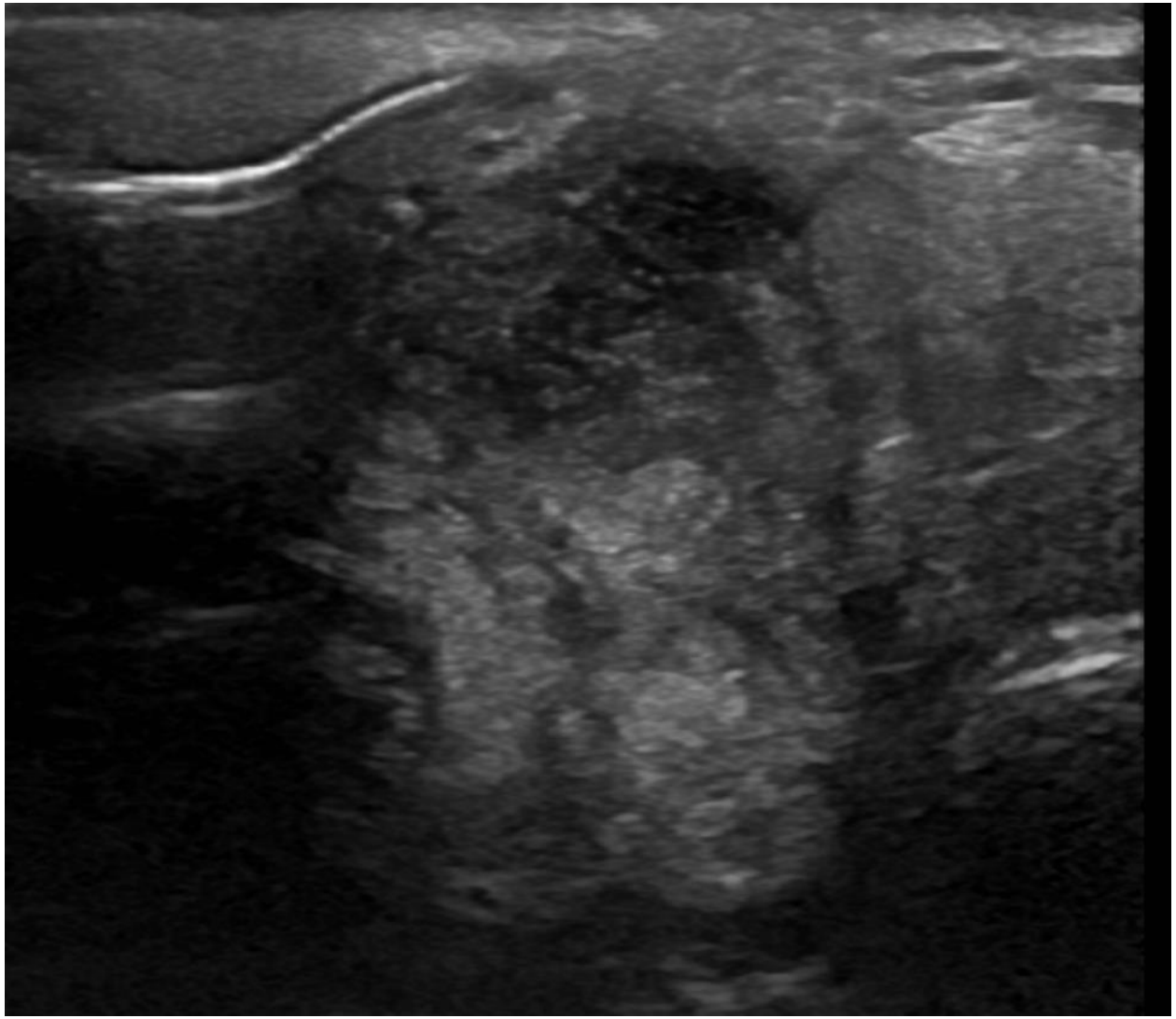


53M, left parotitis, raised inflammatory markers

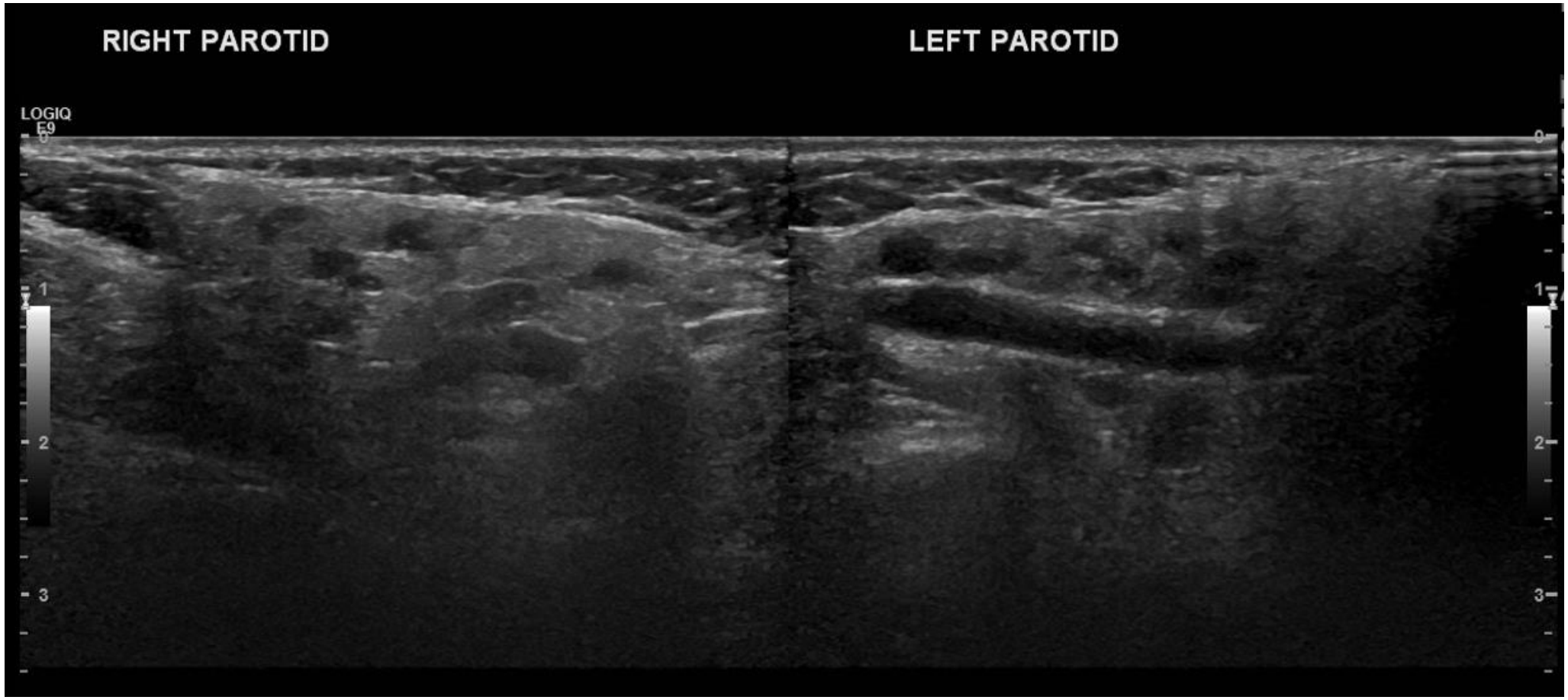




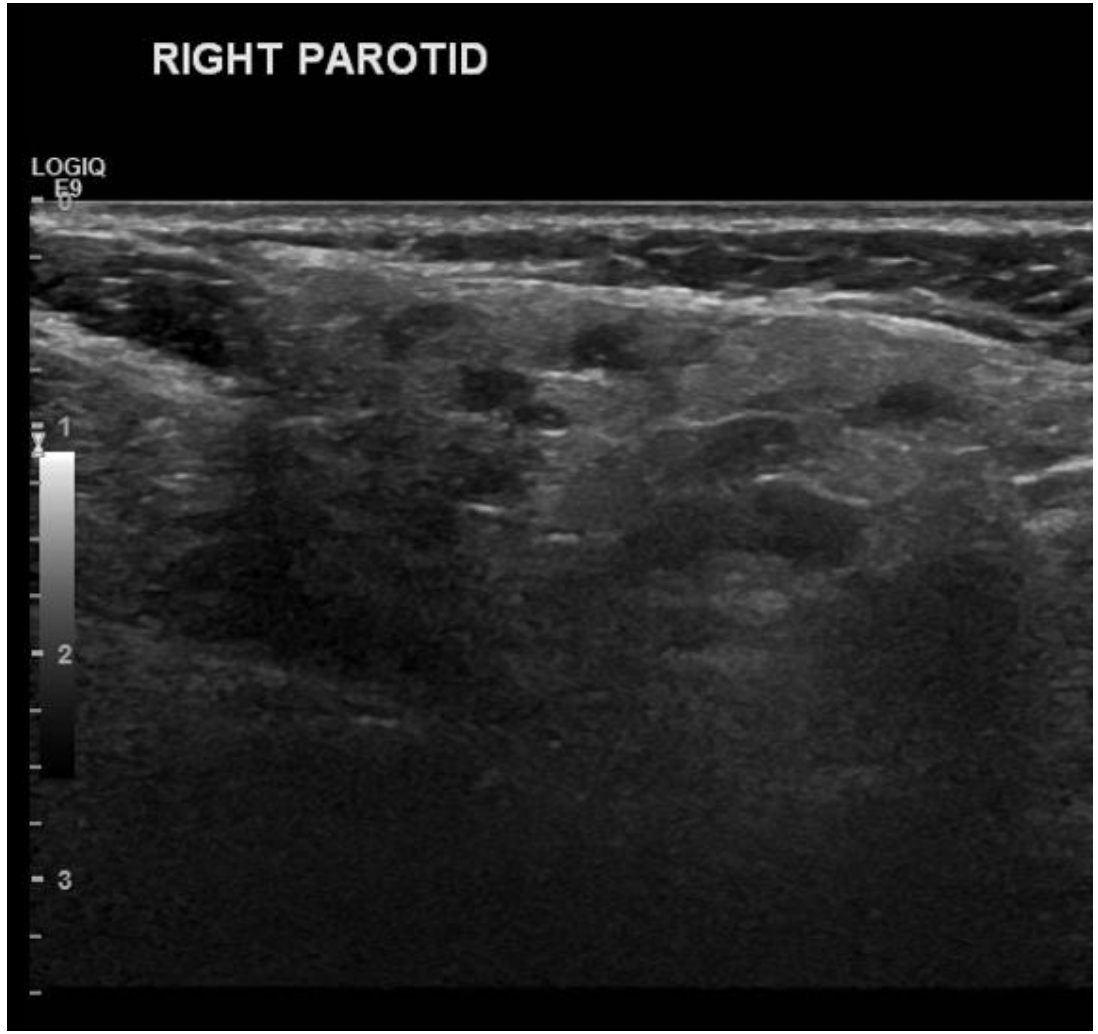
34M, 3/52 history of right sided ear pain, post auricular swelling extending into pre-auricular & inferior pole of parotid



56F, bilateral cheek swelling, raised CRP & rheumatoid factor



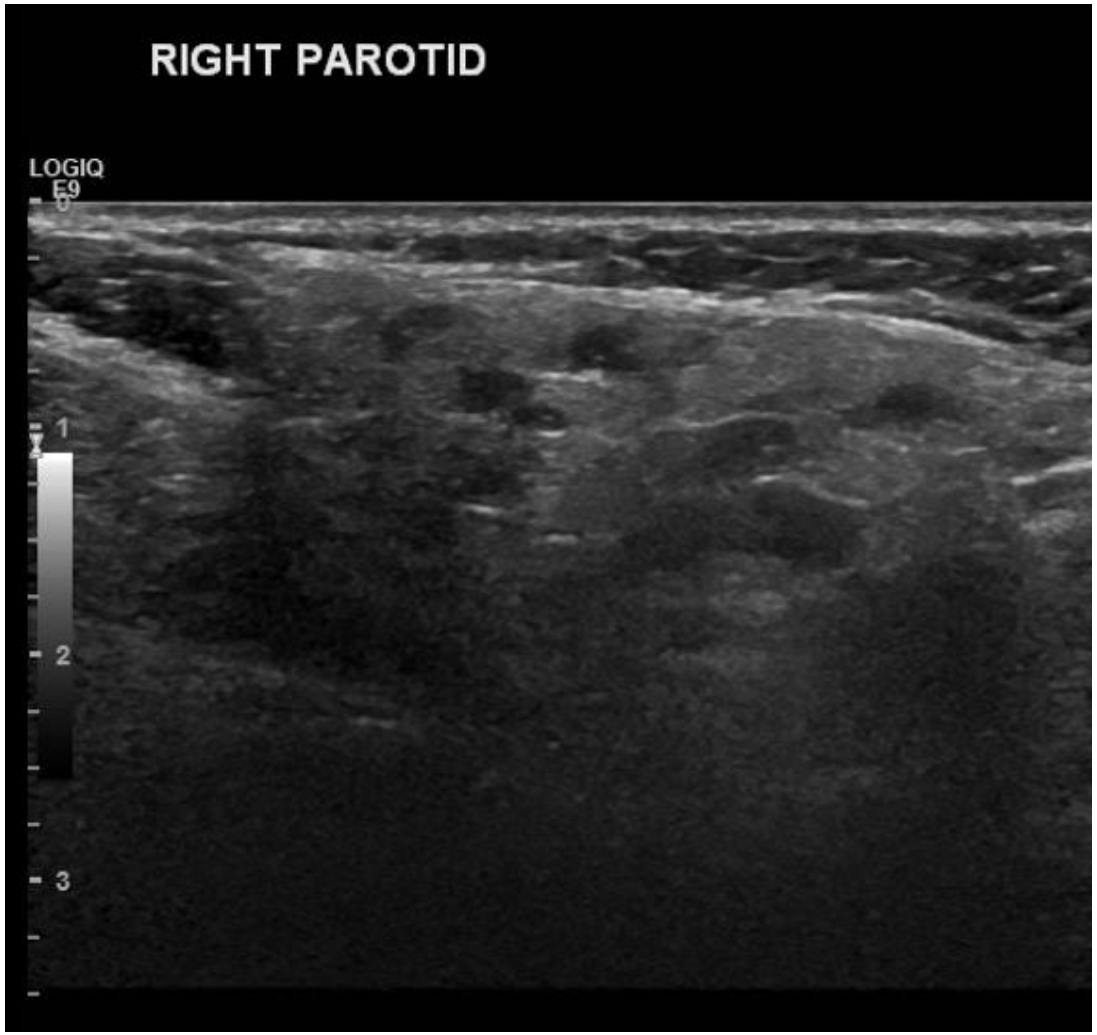
Q6. Which of these statements is true?



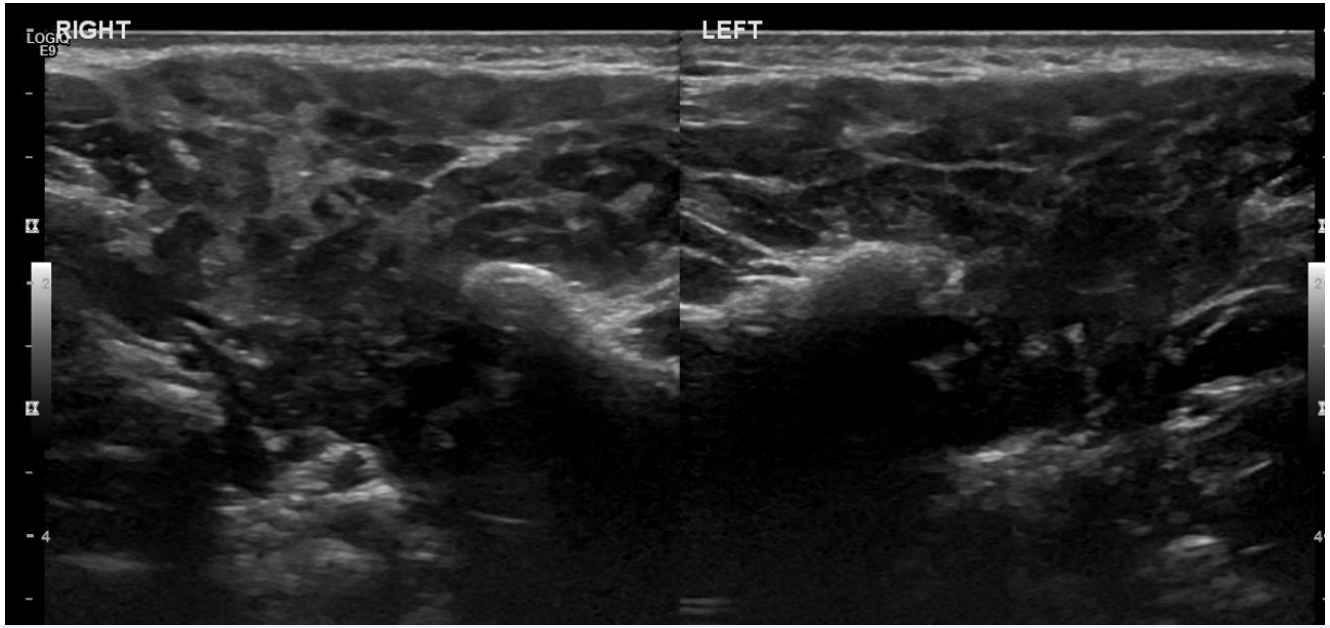
1. Sjogren's syndrome is more commonly found in men
2. HIV would have similar US appearances
3. It only affects the parotid glands

Sjogren's Syndrome

- Women, >40yo
- US differential: HIV, sarcoid, lymphoma
- Can affect all salivary glands
- Higher risk of lymphoma



28M, unintentional weight loss, right parotid larger than left



Conclusion:

Right level IV lymph nodes - non-caseating granulomatous lymphadenitis raising the possibility of sarcoidosis; further clinical and biochemical correlation recommended.

References

- Kamble RC, Josh AN, Mestry PJ. Ultrasound Characterisation of Salivary Lesions. AIJOC. 2013; 4.
- Lee YYP, Wong KT, King AD, Ahuja AT. Imaging of salivary gland tumours. EJR. 2008; 66(3): 419-436.

Thank you for listening!