



SCHOOL OF MEDICINE

Rad-Path Presentation

Brian Brenner M4 UVA SOM

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Case

- 46 yof with a Hx of neck radiation in her youth presents with 4 months of difficulty breathing, and a palpable neck mass on the L of midline that she has noticed. She has not had any Sx of hypo or hyperthyroidism. She believes the mass is growing and was concerned so she presented for initial evaluation to her PCP. Her initial workup included a CBC, CMP, and thyroid panel which were all within normal limits. She was then referred to radiology for further workup including imaging and a biopsy.

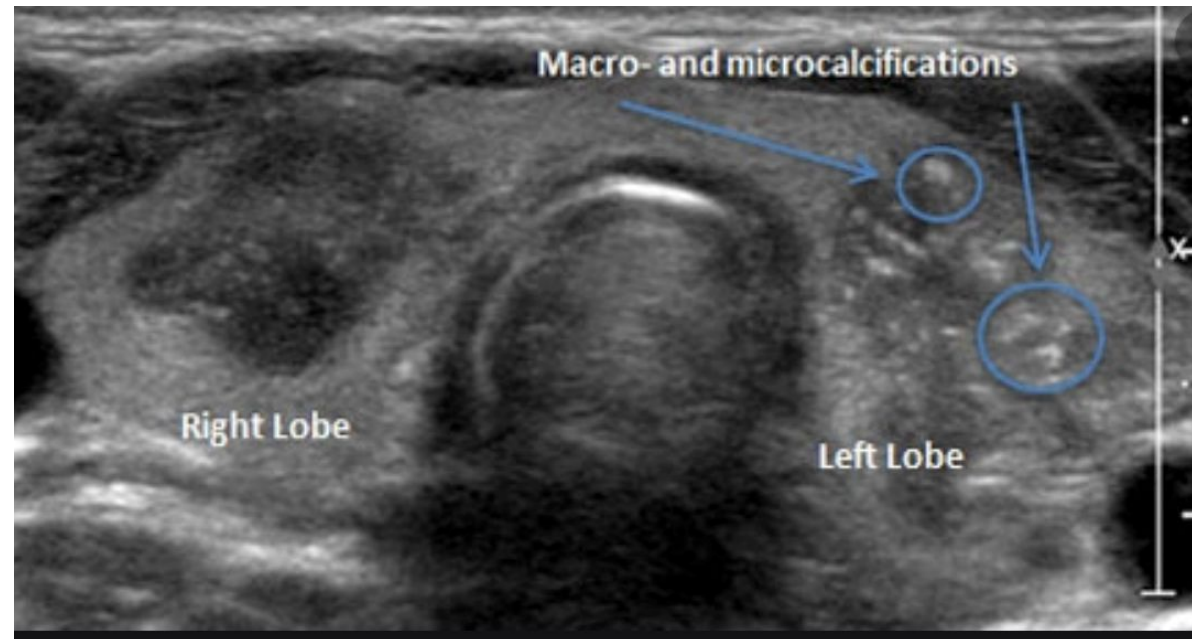
Imaging- US

- Ultrasound was used to target the culprit lesion. US is the preferred method for thyroid biopsy's due to its proximity to the skins surface allowing for high resolution images without radiation. Also it makes an easy method to use for image guided biopsy.



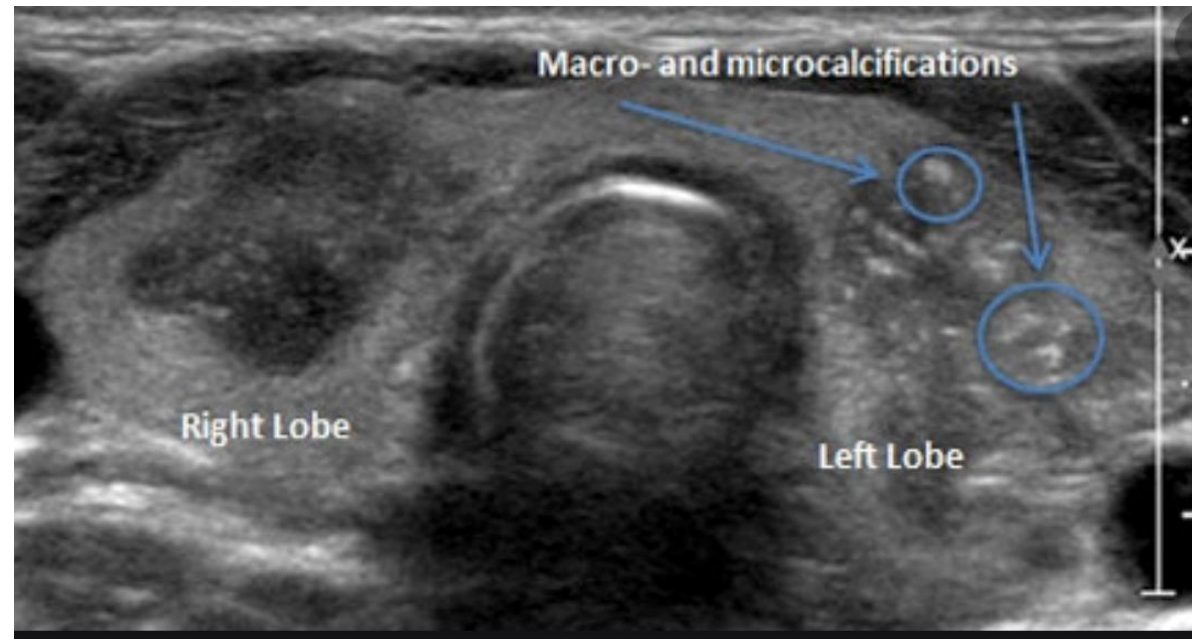
Imaging- US

- Thyroid US with demonstration of L sided lesion with suspicious macro and micro calcifications



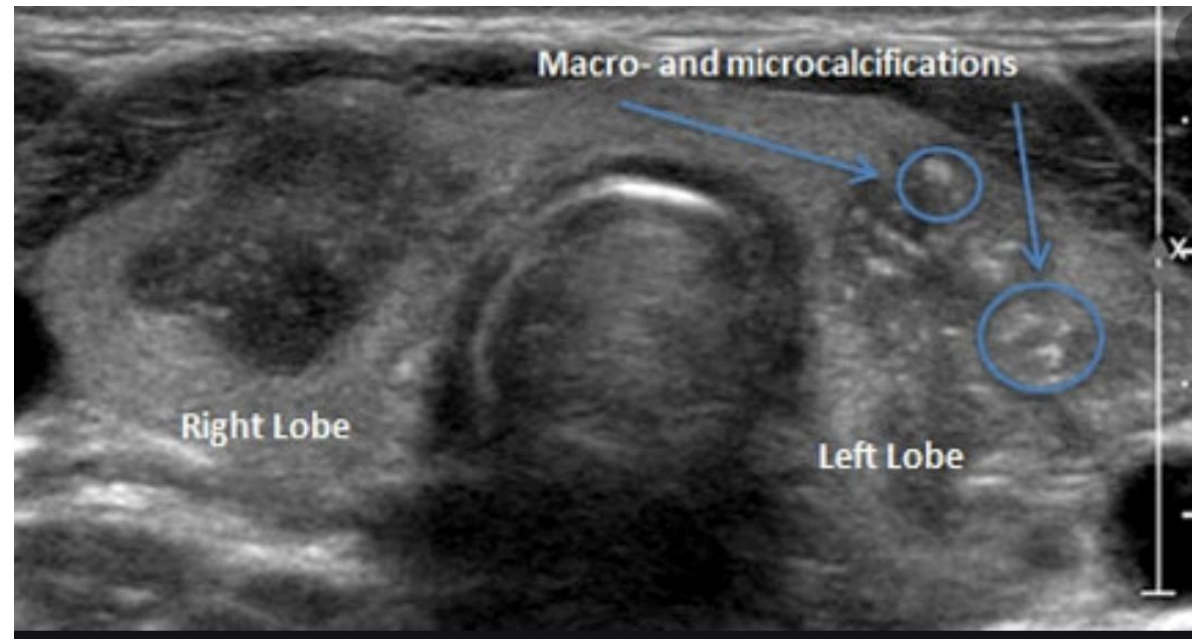
Imaging- US

- An FNA of the lesion was performed first to make sure that the sample was being taken from the correct location then multiple core biopsy's were taken and sent to pathology for sectioning and staining to see what was in the lesion on a cellular level.



Imaging- US

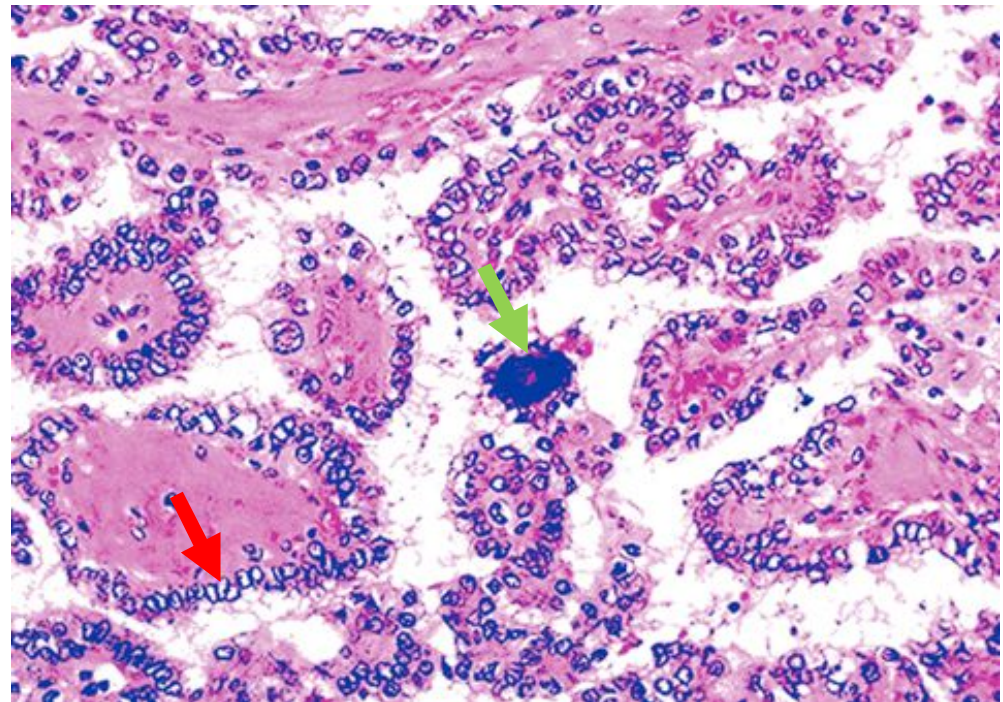
- Some issues that came up during biopsy of the lesion included, not getting an adequate first sample due to too much blood being aspirated. This required multiple attempts to get a quality sample that we could then go and use the location for a core biopsy. Also the neck is a sensitive area and the pressure applied to the patients neck made us have to stop multiple times due to the unpleasant sensation.



Path

- After the core biopsy was sent to pathology they stained and sectioned it with an H&E stain and the sample was shown below:

- You can see the characteristic psammoma bodies that are present in papillary thyroid cancer, these can correspond to the calcifications seen on US imaging.
- Also you can see the characteristic “orphan Annie eye inclusions” in the cells which are vacuoles creating large clear spaces in the nuclei of the cells.
 - Red arrow is orphan Annie eye nuclei
 - Green arrow is the psammoma body



Prognosis/Treatment

- Her overall prognosis is favorable because she is young, the cancer is not invading any surrounding tissue, and the histology is the favorable subtype. She should have very high survivorship long term.
- After the results of the biopsy came back as papillary thyroid cancer the patient was scheduled for a thyroidectomy for definitive management which she will undergo in the next few weeks or so. It will also alleviate her compressive Sx and limit the chance that the cancer metastasizes.