



RUTGERS HEALTH

Robert Wood Johnson
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Department of Otolaryngology—
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Oncocytic Lipoadenoma of the Submandibular Gland

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Background

- Oncocytic lipoadenomas represent a rare, benign variant of salivary gland tumors (SGT).
- Among the various types of SGTs, lipomatous lesions are considered some of the most unusual and constitute approximately 6% of all head and neck malignancies in the United States.
- Oncocytic lipoadenomas are a biphasic lipomatous neoplasm, predominantly composed of oncocytes with varying proportions of adipocytes.
- Oncocytes are characterized by abundant, eosinophilic, finely granular cytoplasm containing a high concentration of mitochondria.
- To date, **26 cases of parotid gland oncocytic lipoadenomas** have been reported, and **only 7 cases in the submandibular gland**.

Case Presentation

- A 47-year-old female patient (VM) with hypertension, Graves disease, and thyroid nodules was found to have an incidental left submandibular mass during routine thyroid ultrasound.
- The patient was otherwise asymptomatic.
- An initial core needle biopsy performed at the time of initial presentation was nondiagnostic.
- On physical examination, there was a mass located in the left level 1b of the neck, and it was nontender and firm, with no associated neurological deficits or skin changes.

CT Imaging and Histopathology

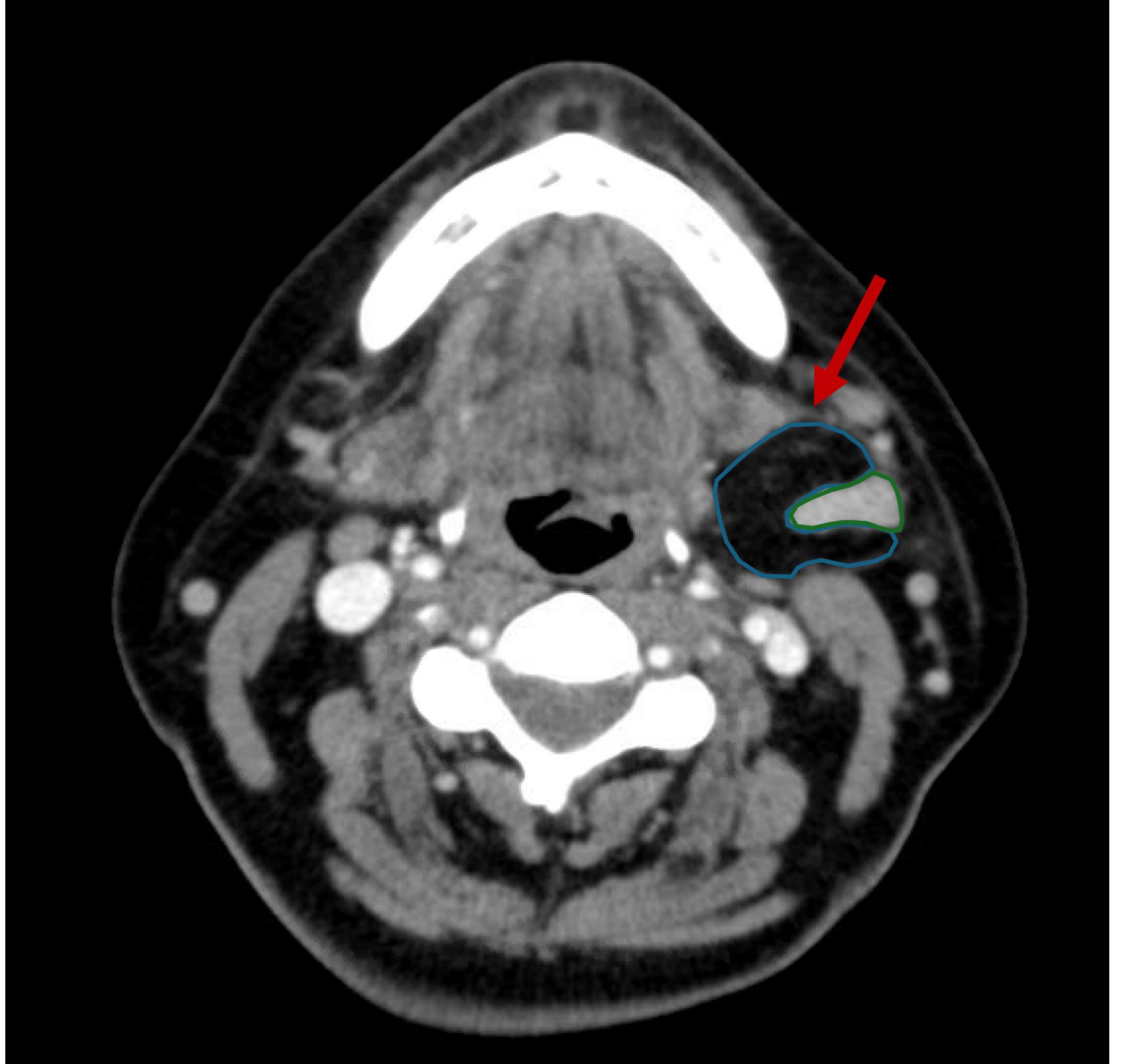


Figure 1: CT axial section at the level of the submandibular gland. A biphasic fat and soft tissue mass is seen in the left submandibular gland (red arrow). The mass measures 3.7 x 2.8 x 3.9 cm. The mass contains a fat component that is hypodense, with an area of hyperdensity that represents the soft tissue component within it. Adipocytic component – blue outline, Oncocytic component – green outline.

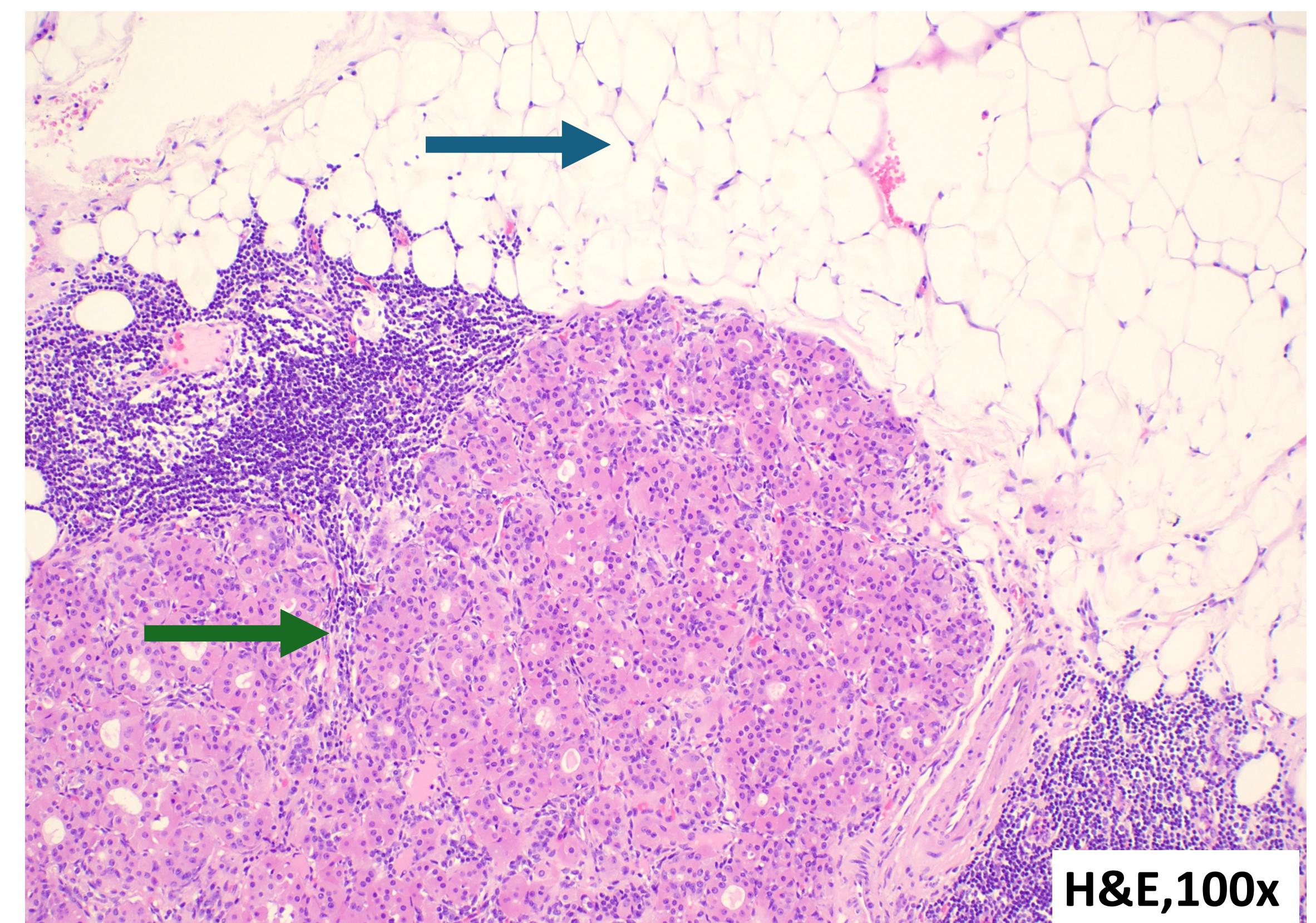


Figure 2: Oncocytic lipoadenoma on histopathology demonstrating its biphasic nature.

Cross section of an oncocytic lipoadenoma showing mostly mature lobulated adipocytic tissue (blue arrow) with a centrally located nodule composed of oncocytic glandular tissue (green arrow).

Discussion

- On gross examination, the excised mass measured 4.5 x 4.3 x 2.5 cm. It was predominantly pale white-tan in color, with a lobulated area of tan-brown soft tissue, surrounded by yellow-tan lobulated glandular tissue.
- Histopathologic analysis revealed **lobulated adipocytic tissue intermixed with foci of oncocytic glandular tissue**.
- This case highlights the importance of continuing to raise awareness of oncocytic lipoadenomas for future inclusion by clinicians and histopathologists due to its rarity.
- Cytological evidence from core needle biopsy is not always adequate for establishing a diagnosis.
- Histopathologic analysis of the surgical specimen is often required for definitive diagnosis.
- Overall, this case demonstrates the importance of the interplay between cytology, advanced imaging, and histopathology in the diagnosis of salivary gland tumors.

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