**INTRODUCTION**

Oncocytic lipoadenoma is an extremely rare benign tumor of the salivary glands first described in 1998 in the submandibular gland by Hirokawa, who characterized it as a benign tumor composed of an admixture of mature fat cells and oncocytes. Since the first description there have been a few cases reported in the English literature, some involving the parotid gland. Oncocytic lipoadenoma is a rare benign tumor of the salivary glands. We present a case of a 70 year old woman with a submandibular gland tumor. A preoperative diagnosis of oncocytic lipoadenoma was highly favored based on unique imaging characteristics. MRI is superior to CT in its ability to define the contours of and also characterize the nature of soft tissue masses in the neck and may demonstrate salivary masses that are occult on CT. MRI is also better able to demonstrate features that distinguish benign and malignant salivary tumors. In this current case MR clearly identified both soft tissue and lipomatous elements of a lesion that was confined to the submandibular gland, showing no invasive imaging features. While the imaging features of oncocytic lipoadenoma have not been previously reported, the imaging findings match the expected appearances based on the pathologic nature of this tumor. These imaging findings were further supported by findings on cytology from fine needle aspiration biopsy showing oncocytic adenocarcinomas. The histologic differential diagnosis of oncocytic lipoadenomas in salivary gland aspirates include oncocytoma, Warthin’s tumor, oncocytic carcinoma, oncocytic metaplasia, and oncocytic hyperplasia. Histologic evaluation in this case showed a characteristic mixture of fat cells and oncocytic without atypia characteristic of oncocytic lipoadenoma.

**RESULTS: Pathological Findings**

Palpation-guided fine needle aspiration biopsy (FNA) was performed with a 23-gauge needle and 10 ml syringe. Two passes yielded three smears which were fixed with ethanol and stained with Papanicolaou stain.

**Clinical Summary**

A 70 year old Caucasian woman presented with a two year history of a slowly growing, non-tender left submandibular mass. The mass was asymptomatic and was identified incidentally during a thyroid ultrasound to investigate multinodular goiter two years prior to our evaluation. On physical examination she had a soft, mobile, and enlarged left submandibular gland without other palpable masses. There were no overlying skin changes or cranial nerve deficits. The patient had further diagnostic workup with an MRI scan as well as a fine needle aspiration biopsy. Both the imaging and cytologic findings were highly suggestive of this rare tumor. She subsequently underwent an uncomplicated surgical excision of the left submandibular gland, which was dissected easily off the surrounding tissue. Intraoperative findings included a very soft 3cm fatty mass with areas of hyperpigmentation attached to the anteroinferior surface of a normal-appearing submandibular gland.

**RESULTS: Imaging Findings**

Magnetic resonance demonstrates a 3.2 X 1.7 cm well-circumscribed, but heterogeneous and partially enhancing mass confined to the left submandibular gland, with normal glandular tissue at its medial aspect (Figure 1). The mass is heterogeneous but has a predominantly bright signal on T1 imaging that loses signal on fat-saturated sequences, indicating it represents a lipomatous component. The solid components enhance. Contralateral submandibular gland appears normal (*) .

**REFERENCES**