Endoscopic-Assisted Resection of a Rare Infratemporal Fossa Pleomorphic Adenoma

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INTRODUCTION

Pleomorphic adenomas (PAs) are common benign salivary gland tumors, typically arising in the parotid gland, but are rarely found in ectopic locations, such as the infratemporal fossa (ITF). The ITF's complex anatomy, with its proximity to critical neurovascular structures, complicates diagnosis and surgical management. We present a rare case of PA in the ITF and describe a successful endoscopically-assisted resection approach.

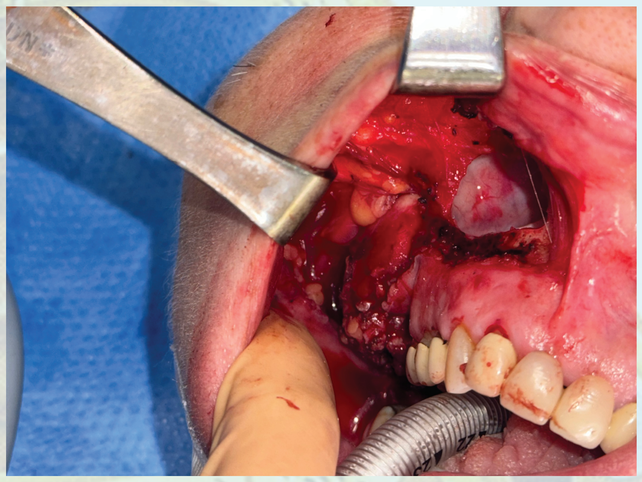
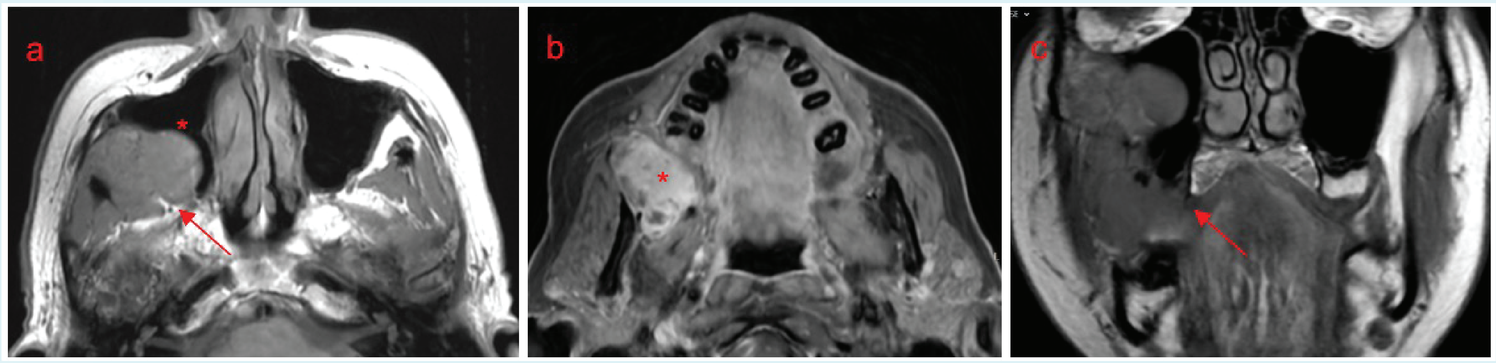


Figure 2. Intra-oral anterior maxillary antrostomy.

CASE PRESENTATION

A 61-year-old female presented with facial deformity, right trigeminal neuropathy, and chronic right sinusitis. MRI identified a well-defined mass in the right infratemporal fossa. A biopsy confirmed PA. The patient underwent transoral and transnasal endoscopic-assisted surgery, including partial maxillectomy, anterior maxillary antrostomy, and decompression of the right V2 nerve. Intraoperatively, a 6 x 2.5 cm dumbbell-shaped mass was found, associated with the pterygoid muscles and internal maxillary artery. The tumor was resected en bloc with careful dissection around critical structures. The patient had no postoperative complications and was discharged on the second day.

Figure 1. MRI Imaging of the Infratemporal Fossa Mass



a) Axial T1 precontrast image demonstrating mass extension into the right maxillary sinus (*) with loss of fat planes between the mass and the temporalis muscle (arrow).

b) Axial T1 postcontrast image showing tumor involvement between the retromolar trigone, mandible, and pterygoid muscles (*).

c) Coronal T1 precontrast image highlighting the craniocaudal extension of the mass and its involvement of the right maxillary alveolar ridge (arrow).

DISCUSSION

PA in the ITF is rare, and its management is challenging due to the region's complex anatomy. Advanced imaging and high clinical suspicion are essential for diagnosis. Endoscopic-assisted surgery offers excellent visualization, allowing for safer resection of tumors near critical structures. In this case, the combined transoral and transnasal approach facilitated tumor removal with minimal morbidity.

CONCLUSION

We highlight the challenges of managing pleomorphic adenomas in the infratemporal fossa and demonstrates the utility of endoscopic- assisted surgery. Early diagnosis and specialized surgical approaches are crucial for favorable outcomes in rare cases of PA.

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