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CASE REPORT

# Management of parapharyngeal minor salivary neoplasms in children: A case report and review☆

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**Summary** Parapharyngeal neoplasms are rare entities in children. Benign minor salivary gland neoplasms of the parapharyngeal space have been described in the adult literature, but there is little guidance in the pediatric literature. We present the case of an adolescent male with a primary minor salivary gland pleomorphic adenoma presenting as an enlarging, asymptomatic parapharyngeal mass. We discuss the clinical presentation, radiologic findings, differential diagnosis and our surgical management with a summary of the current literature on the topic.
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## 1. Introduction

Salivary neoplasms are uncommon entities in children. Among the records of the Armed Forces Institute of Pathology (AFIP) only 1.7% of all salivary neoplasms occur in children [1]. Primary parapharyngeal space (PPS) tumors in children are exceedingly rare. The majority of neoplasms involving the PPS in adults are of salivary origin. However, in children, salivary tumors are less common with soft tissue sarcomas comprising the most frequent neoplasms [2]. There have been several case reports of pleomorphic adenomas arising de novo in the PPS that were noncontiguous with the deep lobe of the parotid. All such reports involved the adult population [3,4]. It has been hypothesized that these lesions occur in displaced or aberrant salivary tissue within a lymph node. The surgical management of these lesions has been via an external approach, which carries significant morbidity. We present the case of an isolated parapharyngeal pleomorphic adenoma in a child that we excised transorally with a positive outcome.

## 2. Case presentation

A 16-year-old male was referred for evaluation of a right parapharyngeal mass noted on a dental examination. The dentist had last examined the patient

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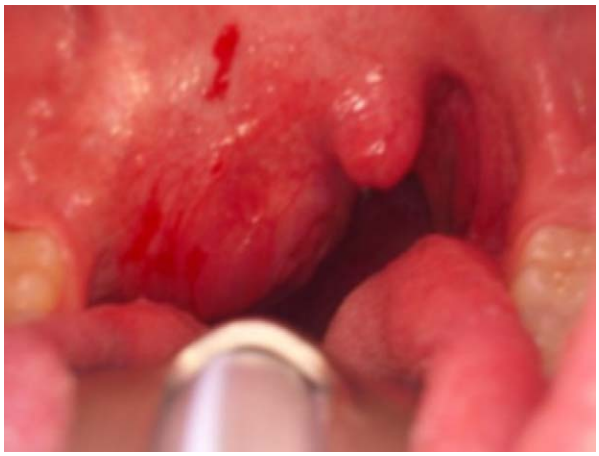

**Fig. 1** Intraoral mass causing inferomedial deviation of right tonsil.

approximately 6 months prior without noting tonsillar deviation. The patient denied obstructive symptoms including dyspnea, dysphagia and stertor as well as systemic symptoms including fatigue, weight loss and night sweats. He also denied paresthesias, increasing facial pain, episodes of sinusitis, odynophagia or vocal changes. His past medical history was significant for a right-sided Bell's palsy with complete resolution at age 10 and well-controlled allergic rhinitis. He had no past surgical history. A family history and review of systems were noncontributory.

On examination, the patient was well developed and in no acute distress. Otologic and nasal exams were unremarkable. Oropharyngeal exam demonstrated a large firm mass displacing the right tonsil inferomedially (Fig. 1). The mass was nonfluctuant and nontender to palpation. Neck examination demonstrated normal range of motion and no palpable lymphadenopathy. Cranial nerves were intact bilaterally. A dermatologic examination was notable for several café-au-lait spots on the patient's back and chest.

In review of magnetic resonance imaging (MRI) and computed tomography (CT) of the neck obtained by the referring physician, a 4.5 cm $\times$ 3.5 cm $\times$ 3.0 cm mass of the right PPS was noted (Fig. 2). A clearly visble fat plane was noted between the mass and the deep lobe of the parotid. The scans were reviewed with a staff neuroradiologist and a staff neurosurgeon. Initial radiologic differential diagnosis included a neurofibroma, rhabdomyosarcoma, or lymphoma with a salivary neoplasm less likely.

The patient was taken to the operating room for a planned transoral incisional biopsy of the lesion to further direct therapy. A mucosal incision was made over the bulk of the mass and soft tissue dissection over the anterior aspect of the mass was performed. Intraoperatively, the mass was noted to be freely mobile and nonadherent to local tissues. An intraoperative frozen section biopsy was evaluated by pathology and believed to be consistent with a mixed salivary tumor (Fig. 3). At that time, given the ease with which the dissection had proceeded and the excellent exposure, it was felt that the mass could safely be excised transorally. The therapeutic options were discussed at length with the patient's guardian and consent for transoral excision was obtained. Using blunt dissection, the mass was removed in its entirety without difficulty through the transoral incision. The incision was then closed in standard fashion and the patient was discharged the following morning after an uneventful observation period. The mass was measured to be 4.5 cm $\times$ 3.5 cm $\times$ 3.0 cm and was forwarded to pathology for evaluation. The final pathologic diagnosis revealed a pleomorphic adenoma. Follow up at

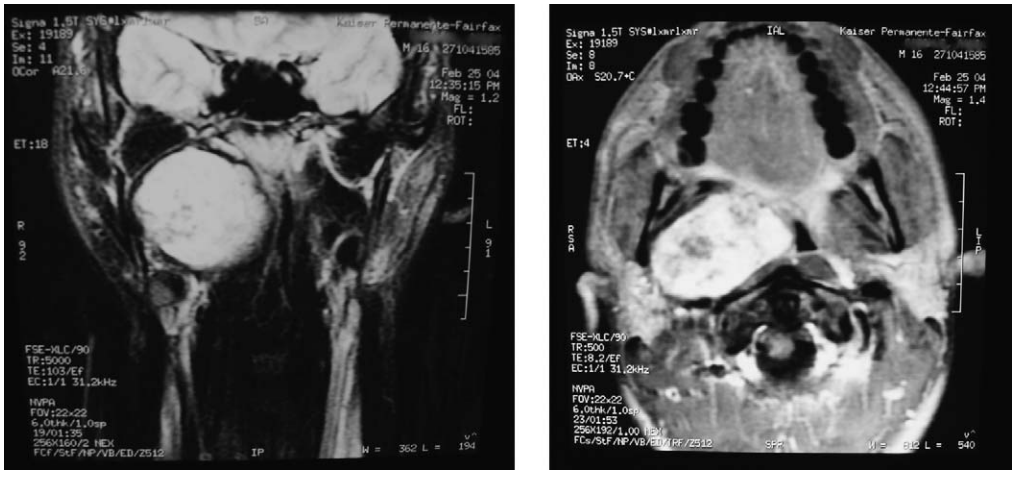


**Fig. 2** Coronal and axial MRI demonstrating large right parapharyngeal mass lesion.