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Surgery

Pleomorphic Adenoma of the Parapharyngeal Space: A Case Report with Literature Review

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I. Abstract | **Case Report**

Pleomorphic adenoma is the most common benign tumor of the salivary glands, primarily affecting the parotid gland in 80% of cases. However, rarer localizations, such as the parapharyngeal space, can occur. We report the case of a 21-year-old woman with a pleomorphic adenoma of the parapharyngeal space. The tumor was completely excised, and histological examination confirmed the diagnosis. No signs of recurrence were observed after a 6-month follow-up. This case highlights the importance of diagnosis and surgical management in atypical presentations of this tumor.

Keywords: Pleomorphic Adenoma, Parapharyngeal Space, Surgery, Follow-Up.

II. INTRODUCTION

Pleomorphic adenoma is the most common benign tumor of the salivary glands. It is classified as a mixed tumor, composed of epithelial and myoepithelial cells within a mesenchymal stroma [1, 2]. It most commonly arises in the major salivary glands, particularly the parotid gland, accounting for 80% of cases [3-5]. Localization in the minor salivary glands of the oral cavity, nasal cavity, pharynx, larynx, or in the lacrimal glands is rare but not exceptional [6].

We report a case of a pleomorphic adenoma in the parapharyngeal space in a 21-year-old woman. The tumor was completely excised. Histological examination confirmed the diagnosis. No signs of recurrence were noted at the 6-month follow-up.

III. CASE REPORT

A 28-year-old woman was admitted to our department for dysphagia to solids, associated with rhinolalia and nocturnal swelling, evolving in a context of preserved general health.

Oral cavity examination revealed a regular, painless, well-defined, non-bleeding mass protruding at the level of the soft palate, displacing the right tonsil and reducing the oropharyngeal airway. Rhinoendoscopy showed a submucosal bulging in the nasopharynx. External examination was unremarkable, and no cervical lymphadenopathy was detected.

A cervical CT scan revealed a well-defined parapharyngeal mass adjacent to the tonsillar region, cystic in nature, displacing the right oropharyngeal wall and extending toward the paranasopharyngeal space, without cervical lymphadenopathy or signs of locoregional invasion (Figure 1) Cervical MRI identified a well-limited lesion in the right prestyloid space, with low vascularization, displacing the lateral pharyngeal wall and soft palate, causing narrowing of the oropharyngeal isthmus.

The patient underwent a complete tumor excision via a combined cervical and transoral approach. Histopathological examination revealed a tumor proliferation composed of epithelial cells arranged in lobules and trabeculae, along with myoepithelial cells within an abundant myxoid stroma, without signs of malignancy.

The postoperative course was uneventful. The patient regained normal swallowing and phonation. Follow-up at 6 months showed no signs of local recurrence.

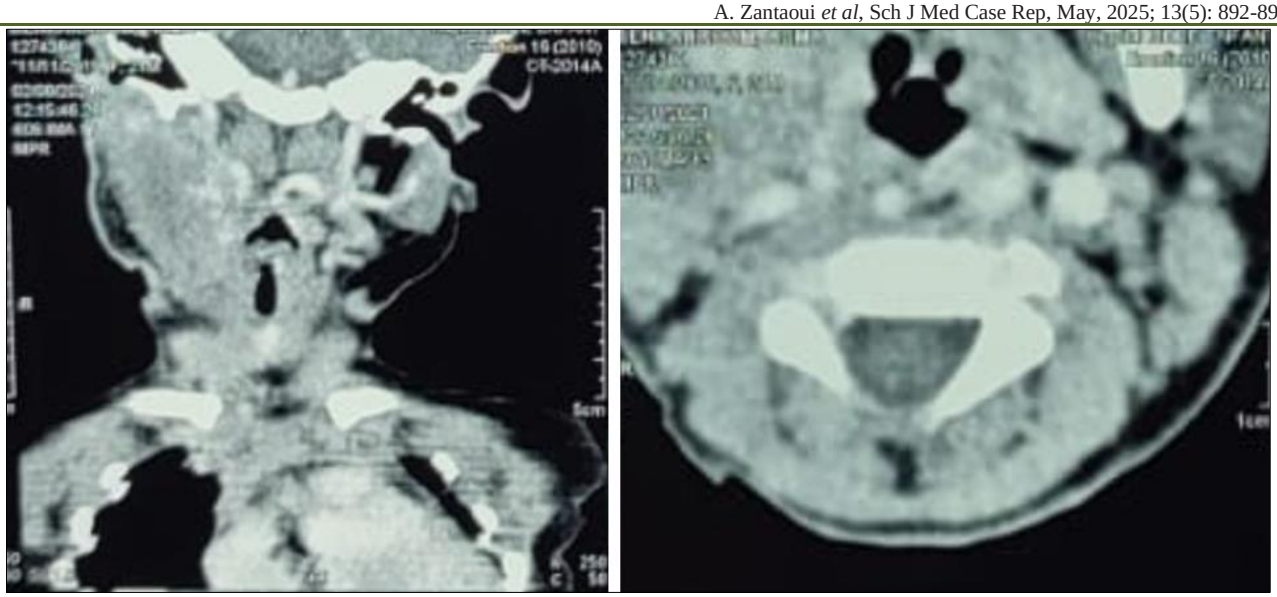

Figure 1: A cervical CT scan revealed a well-defined parapharyngeal mass adjacent to the tonsillar region

IV. DISCUSSION

Pharyngeal space tumors are characterized by a great histological diversity due to the various structures contained within this space [7]. Tumors in the prestylar space are primarily dominated by salivary gland tumors, particularly pleomorphic adenomas [8, 9]. The latter was first described in 1972 by the World Health Organization as a circumscribed tumor characterized by its pleomorphic architecture, with a mixed component of epithelial and myoepithelial elements embedded in a mucoid, myxoid, or chondroid matrix [10]. It represents the most common benign salivary gland tumor. It predominantly affects the major salivary glands in 85% of cases, followed by the accessory salivary glands (10%). The palate is the most common site (11), followed by the upper lip, cheek, floor of the mouth, tongue, pharynx, and nasal cavity [12, 13]. Lymph node involvement is exceptional.

Pleomorphic adenomas typically occur between the 3rd and 5th decades of life, rarely in the elderly and children, with a female predominance. The para-pharyngeal form is most often manifested as a slowly growing mass in the oral cavity or cervical region due to its deep location [14]. Compression symptoms such as dysphagia, rhinolalia, and snoring are frequently reported. Clinical examination usually reveals a regular, well-limited submucosal mass, non-ulcerated, displacing the tonsil medially [15-17].

The diagnosis of para-pharyngeal pleomorphic adenomas is often difficult. It is facilitated by computed tomography (CT) or magnetic resonance imaging (MRI) [18, 19]. CT helps assess the tumor, its location, vascularization, and relationships, especially with the base of the skull and the vascular axis of the neck [11]. It often shows a homogeneous mass of intermediate density, moderately enhancing after contrast injection [20]. Osteolysis may be observed, often due to ischemic phenomena [21, 22]. On MRI, pleomorphic adenomas appear hypointense or isointense on T1-weighted images and hyperintense on T2-weighted images. A fine needle aspiration (FNA) biopsy via transoral or percutaneous approach can be performed after excluding a vascular tumor. It is not highly recommended due to the tumor's heterogeneity and the risk of seeding along the biopsy tract (23). Biopsies are discouraged due to the risk of recurrence through capsular rupture [24].

The treatment of para-pharyngeal pleomorphic adenomas primarily relies on surgery. Several surgical approaches have been described in the literature, depending on the tumor's location, size, and its vascular-nerve relations: cervical transparotid, transcervical (submaxillary or transmandibular), infratemporal fossa, or transoral [25, 26]. Tumor excision must be extensive to prevent recurrence [27]. In our case, we approached the tumor via both transoral and cervical routes, allowing for better exposure of the tumor's deep part and good control of the vascular-nerve structures. The prognosis of pleomorphic adenomas is generally good. However, the risk of malignant degeneration is not negligible (6.8%) [28-30]. The recurrence rate is 5% in the literature, which may be linked to capsular rupture or incomplete excision [31-33]. In our series, no signs of locoregional recurrence were observed at 6 months.

V. CONCLUSION

Pleomorphic adenoma is the most common benign tumor of the salivary glands. Parapharyngeal localization is very rare but not exceptional. Radiological assessment (MRI, CT scan) is essential for diagnosis. The principle of treatment is the complete surgical excision of the tumor mass. Tumor recurrence and malignant transformation are major concerns for the surgeon, highlighting the importance of long-term follow-up.

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