



A Case of Pleomorphic Adenoma of Hard palate: Unveiling the Uncommon

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Abstract

Pleomorphic adenoma is the most common benign salivary gland tumour, typically affecting the parotid gland but occasionally presenting in minor salivary glands of the oral cavity. This case report describes a 35-year-old male patient who presented with a large, midline intraoral swelling on the hard palate, accompanied by difficulty swallowing (dysphagia). The swelling was gradual in onset, painless, and had progressively increased in size. Clinical and radiographic evaluations were done. Surgical excision of the lesion was performed, and histopathological examination confirmed the diagnosis of pleomorphic adenoma. Postoperative recovery was uneventful, and the patient's symptoms resolved. This case highlights the importance of considering pleomorphic adenoma in the differential diagnosis of palatal swellings and underscores the need for early diagnosis and appropriate management to prevent complications such as functional impairments or malignant transformation.

Keywords: Pleomorphic Adenoma; Hard Palate; Intraoral Swelling; Benign Salivary Gland Tumour; Palatal Tumour; Oral Lesions; Minor Salivary Glands

Introduction

Pleomorphic adenoma, also known as benign mixed tumour, is the most common salivary gland tumour, accounting for approximately 60-70% of benign salivary gland neoplasms [1]. Although it predominantly arises in the major salivary glands, it can occasionally develop in minor salivary glands, with the hard palate being the most frequent site of occurrence [2,3].

This report presents the case of a 35-year-old male with a large midline intraoral swelling of the hard palate. The patient reported progressive swelling over several months, accompanied by difficulty in swallowing (dysphagia). The swelling was non-tender, firm, and covered with intact mucosa. Its size and location significantly interfered with oral functions, necessitating a thorough evaluation and management. This case highlights the clinical presentation, diagnostic challenges, and therapeutic approach for

pleomorphic adenoma of the hard palate.

Case Report

A 35-year-old male presented with a large midline intraoral swelling involving the hard palate. The patient reported gradual enlargement of the mass over several months, associated with difficulty swallowing (dysphagia) but not associated pain or bleeding. There was no history of trauma, infection, or prior similar lesions. No history of any substance abuse.

On clinical examination, a firm, non-tender, well-circumscribed swelling measuring approximately 4 cm in diameter was observed in the midline of the hard palate. The overlying mucosa appeared intact without ulceration or discoloration. There were no palpable cervical lymph nodes, and the rest of the oral cavity examination was unremarkable. On computed tomography (CT) scan, a well-defined, homogenous, soft-tissue mass confined to the hard palate without evidence of bony invasion or extension into adjacent structures was noted. Magnetic resonance imaging (MRI) confirmed the lesion's encapsulated nature and absence of vascular or neural involvement (Figure 1). Fine-Needle Aspiration Cytology (FNAC) report showed a biphasic pattern with epithelial and mesenchymal elements, consistent with pleomorphic adenoma. Patient was posted for Transoral complete excision of the mass. Following surgical excision, histological examination confirmed the diagnosis of pleomorphic adenoma, showing a mixture of ductal epithelial cells and myxochondroid stroma (Figure 3).

Surgical Technique

The patient underwent surgical excision of the tumour under general anesthesia. Nasotracheal intubation was done. A transoral approach was used. Boyle Davis mouth gag was applied. An elliptical incision was made around the lesion, ensuring adequate margins to minimize the risk of recurrence. Careful dissection was performed to excise the tumour along with its capsule, avoiding rupture to prevent tumour seeding (Figure 2). A transoral approach was employed to ensure complete removal, preserving surrounding structures. Intraoperative findings revealed a well-encapsulated mass, which was excised with adequate margins to minimize the risk of recurrence. Hemostasis was achieved using coblator. Postoperatively, the patient recovered uneventfully. Patient was given analgesic and antibiotic coverage and oral rinses with antiseptic solution.

Follow up

Regular follow-up over 6 months showed no evidence of recurrence or complications, and the patient reported

significant improvement in swallowing and oral function.

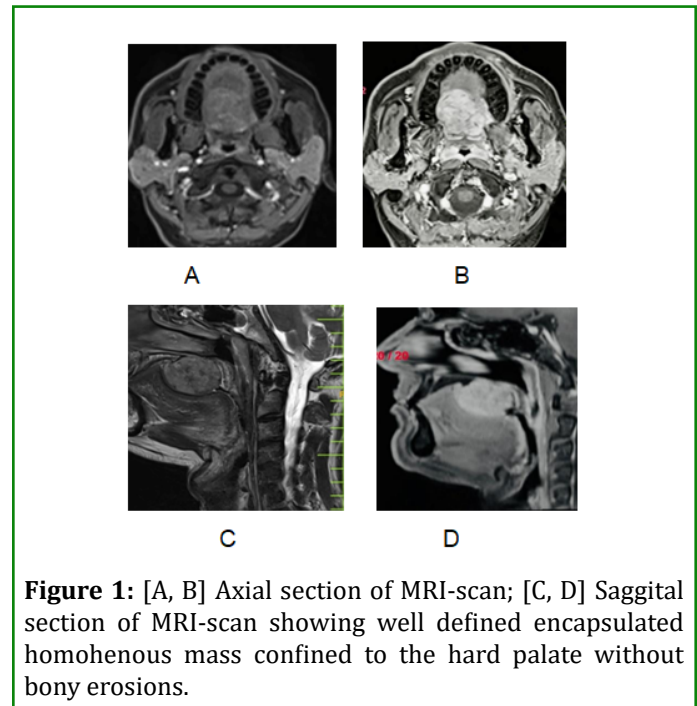


Figure 1: [A, B] Axial section of MRI-scan; [C, D] Saggital section of MRI-scan showing well defined encapsulated homogenous mass confined to the hard palate without bony erosions.

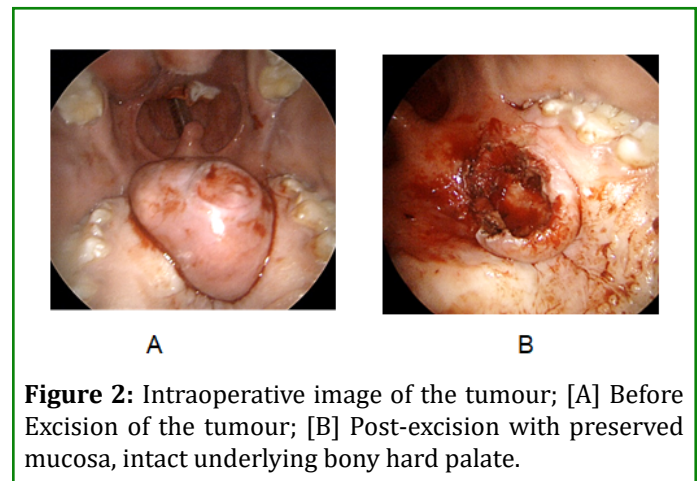


Figure 2: Intraoperative image of the tumour; [A] Before Excision of the tumour; [B] Post-excision with preserved mucosa, intact underlying bony hard palate.

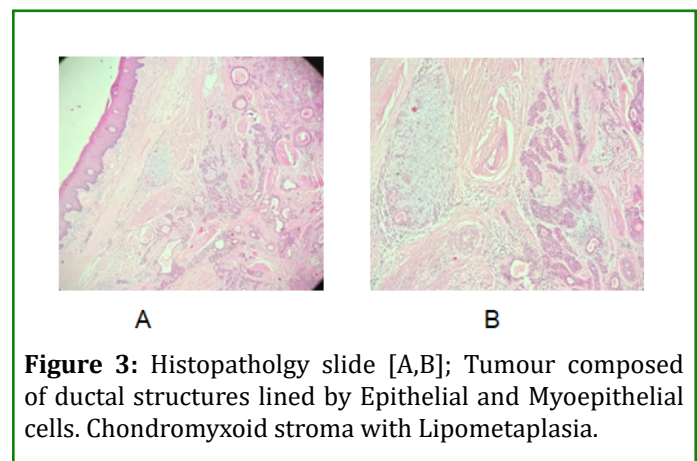


Figure 3: Histopathology slide [A,B]; Tumour composed of ductal structures lined by Epithelial and Myoepithelial cells. Chondromyxoid stroma with Lipometaplasia.

Discussion

Pleomorphic adenoma is the most common salivary gland tumour, constituting approximately 60-70% of all benign salivary gland tumours [1]. The occurrence is predominantly in the parotid glands (about 80% of cases), followed by the submandibular glands (10%), and the remaining 10% in the minor salivary glands, with the hard palate being the most common site for minor gland involvement. Other sites are upper lip mucosa and soft palate (16.7%), cheek mucosa, retromolar trigone (11.1%), lower lip mucosa and tuberosity (5.6%). Infrequent sites of pleomorphic adenomas are noted in tongue, paranasal sinuses, middle ear, respiratory tracts and alimentary tract [2]. Pleomorphic adenoma of the hard palate is a rare but a notable entity, with clinical features that often mimic other intraoral lesions such as cysts, fibromas, or malignant tumours [3]. This tumour originates from myoepithelial cells and intercalated duct cells, which retain pluripotent differentiation potential, accounting for the tumour's biphasic epithelial and mesenchymal histological appearance [3,4].

Pleomorphic adenoma of the hard palate typically presents as a slow-growing, painless mass. Key clinical features include [3-5]:

- **Location:** Most commonly in the posterior hard palate or junction of the hard and soft palate.
- **Consistency:** Firm or rubbery to palpation.
- **Surface:** Covered by intact mucosa, which may appear stretched but not ulcerated.
- **Symptoms:** Progressive increase in size, potentially causing discomfort, difficulty swallowing (dysphagia), or speech alterations as the tumour grows. Pain is generally absent unless secondary infection or malignant transformation occurs.
- **Duration:** Long-standing lesions, often months to years, before presentation.
- **Other Signs:** The tumour is typically well-circumscribed and mobile when small, but larger lesions may feel fixed due to compression of adjacent structures.

Differential diagnosis for this intraoral tumour can be Mucoepidermoid carcinoma, Adenoid cystic carcinoma, Polymorphous adenocarcinoma, Fibroma, Odontogenic cysts or tumors, Lymphoma [5,6]. FNAC findings for pleomorphic adenoma typically reveal a biphasic cellular composition. Smears show clusters and sheets of epithelial cells, often with plasmacytoid features, interspersed with a myxoid or chondroid stroma-like background. The presence of spindle-shaped myoepithelial cells and absence of cytological atypia further support the diagnosis of a benign tumor [6,7].

Histopathological examination of pleomorphic adenoma reveals a characteristic biphasic pattern comprising

epithelial and mesenchymal elements. The epithelial component includes ductal and non-ductal cells arranged in sheets, trabeculae, or duct-like structures. The mesenchymal component is composed of myxoid, chondroid, or fibrous stroma. The tumour is encapsulated, though the capsule may be incomplete in some areas, and there is no evidence of cellular atypia or invasion [7].

On CT-scan, a well-defined, homogenous, soft-tissue mass is seen. CT scan usually gives information on bony invasion and erosions. MRI scan gives information regarding the capsule, vascular and neural spread of the tumour. Heterogenous opacity is noted on high signal intensity on T2-weighted images due to the myxoid and chondroid stroma. On Ultrasonography a hypoechoic, well-circumscribed mass is usually noted. Positron emission tomography is rarely needed unless malignancy is suspected or there is extensive bony invasion or erosions [5-7]. FNAC and imaging modalities play a crucial role in preoperative evaluation, while histopathology confirms the diagnosis.

The malignant transformation rate of pleomorphic adenoma in minor salivary glands is reported to be approximately 6-8%. This transformation usually occurs when the tumour is long-standing or inadequately treated. Carcinoma ex pleomorphic adenoma is the most common malignant variant, and it carries a significantly worse prognosis compared to benign pleomorphic adenoma [7,8].

The primary treatment for pleomorphic adenoma is surgical excision with clear margins. Incomplete excision may lead to recurrence, necessitating careful surgical planning. Small defects often heal by secondary intention without the need for reconstruction [5,6]. Larger defects may require local flaps (e.g., palatal or buccal flap) or free tissue transfer, depending on the size and depth of the excised tissue [7,8]. Postoperatively patient is advised oral saline or antiseptic rinses to maintain oral hygiene. Ryles tube insertion is done in cases with suspected palatal defects or in cases wherein palatal reconstruction has been done. Analgesics and antibiotics are needed to prevent infection and manage pain [3-5]. Close follow-up in immediate postoperative phase is very important to monitor wound healing and detect early signs of palatal defects like nasal regurgitation [6,7]. Long-term follow-up is essential to monitor for recurrence or rare malignant transformation. Recurrence rate is less than 6% as per studies conducted by Spiro, in a case series of 1342 patients with benign minor salivary gland neoplasms [4].

Conclusion

Pleomorphic adenoma of the hard palate is a benign salivary gland tumor with a slow-growing but potentially locally invasive nature. Early diagnosis and timely surgical

intervention are essential to ensure complete excision and prevent recurrence or malignant transformation. Adequate surgical margins must be achieved to minimize the risk of residual tumor. Long-term follow-up is critical to monitor for recurrence, as even well-excised tumors may recur after several years. A multidisciplinary approach, including histopathological evaluation and radiological imaging, is crucial for accurate diagnosis and optimal patient outcomes.

This case highlights the importance of recognizing pleomorphic adenoma as a differential diagnosis for hard palate swellings. Timely diagnosis and meticulous surgical management ensure excellent outcomes with minimal risk of recurrence.

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