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Case Series

Pleomorphic adenoma of the hard palate: a case series

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ABSTRACT

Pleomorphic adenoma is a benign mixed tumour composed of epithelial and myoepithelial cells arranged with various morphological patterns, demarcated from surrounding tissues by a fibrous pseudo capsule. The most common intraoral site is the palatal area, approximately 73%. Diagnosis is based on the history, clinical examination, radiological and histopathological examination. It should be treated as it carries the risk of 6 % malignant transformation. Wide local excision with adequate margin is the treatment of choice. Incomplete excision leads to recurrence. Here, we present a case series of 4 patients diagnosed with pleomorphic adenoma of the hard palate treated with wide local excision followed up postoperatively for 3 months.

Keywords: Hardpalate pleomorphic adenoma, Minor salivary gland neoplasm, Wide local excision, Malignant transformation

INTRODUCTION

Pleomorphic adenoma is a benign mixed tumour composed of epithelial and myoepithelial cells arranged with various morphological patterns, demarcated from surrounding tissues by a fibrous pseudo capsule. It is one of the salivary gland tumours affecting both major and minor salivary glands and accounts for 40–70% of all tumours.[1] It is also the commonest minor salivary gland benign tumour, accounting for 70% of all tumours. The most common intraoral site is the palatal area, approximately 73%, followed by the upper lip 17%, buccal mucosa, the floor of the mouth, tongue, tonsil, pharynx, and retromolar area.[1] Differential diagnosis of the palatal lesions includes other minor salivary gland tumours, mucoepidermoid carcinoma, benign and malignant mesenchymal lesions such as neurofibroma and rhabdomyosarcoma and in children with hard palatal mass, lymphoma also should be kept as a differential diagnosis.[2] Diagnosis is based on the history, physical examination, radiological and histopathological examination. It should be treated as it carries the risk of 6% malignant transformation. Wide local excision with adequate margin is the treatment of choice. Incomplete excision leads to recurrence as the tumour contains a false capsule with finger-like projections known as pseudopods.

Here, we present a case series of 4 patients diagnosed with pleomorphic adenoma of the hard palate treated with wide local excision followed up postoperatively for 3 months.

CASE SERIES

Case 1

A 39-year-old male patient presented to our outpatient department with the complaint of swelling over the hard palate for 8 months, which was insidious onset, progressive in nature, and there were no complaints of ulceration, pain, trauma, dental symptoms and no other comorbidities. Peroral examination showed single, 3×2 cm size well-defined swelling with intact overlying mucosa on the centre of the hard palate (Figure 1A). On palpation, there was no tenderness, firm, and non-mobile.

There were no palpable regional lymph nodes. General and systemic examinations were normal. FNAC showed features of pleomorphic adenoma. CT scan suggested a 2×1.5 cm lesion in the centre of the hard palate without any periosteum or bone invasion.

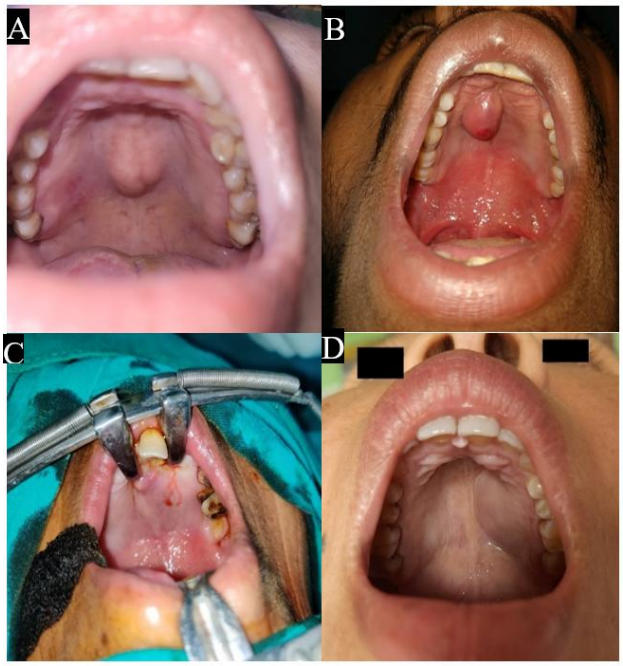

Figure 1: (A-D) Preoperative pictures of the cases 1, 2, 3, 4 respectively.

Case 2

A 33-year-old man came to our outpatient department complaining of a painless, slowly progressing swelling over the hard palate for 9 months. On examination, a single, 3×2 cm, non-tender, firm swelling was present on the anterior end of the right side of the hard palate with normal overlying mucosa (Figure 1B). No clinically significant lymphadenopathy was noted. General and systemic examinations were normal. FNAC showed features of pleomorphic adenoma, and a CT scan showed a benign neoplastic lesion over the right side of the hard palate with intact periosteum.

Case 3

A 52-year-old male patient came with a slow-growing swelling over the palate for the past 9 months, a history of tobacco chewing, and a known case of hypertension and diabetes mellitus on regular medication. A single 3×3 cm, non-tender, firm swelling was seen on the centre of the anterior hard palate (Figure 1C). No clinically significant lymphadenopathy was noted. General and systemic examinations were normal. FNAC report showed features of pleomorphic adenoma and CT scan showed no involvement of the underlying periosteum and bone.

Case 4

A 40-year-old female patient had swelling over the palate for the past 1year. A 3×2 cm non-tender, firm swelling was seen on the left side of the hard palate with normal overlying mucosa (Figure 1D). There were no clinically palpable lymph nodes. General and systemic examinations were normal. On FNAC, features of pleomorphic adenoma were seen. CT scan showed no involvement of the underlying periosteum of the hard palate bone.

Treatment

All these patients were treated by wide local excision with an adequate margin of swelling down to the periosteum, including the overlying mucosa, which was done under general anesthesia by nasotracheal intubation. The hard palate was exposed using Boyle Davis mouth gag and tongue blade. No drilling or palatine bone was removed as it was not involved in all 4 cases. Hemostasis was achieved by diathermy cauterization (Figure 2 A, B). The excised specimen (Figure 3) was sent for histopathological examination (HPE), which confirmed the diagnosis of pleomorphic adenoma and clearance of the tumour margin (Figure 4). Post-excision defect was allowed to granulate and heal on its own (Figure 5). The postoperative period was uneventful. The healing was satisfactory. No recurrence was observed after a follow-up period of 3 months.

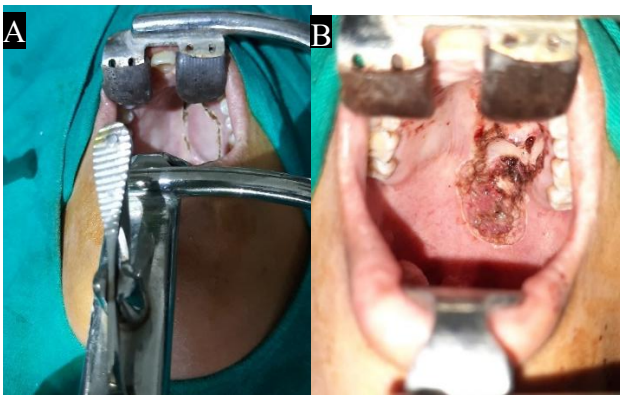

Figure 2: (A, B) Intra-operative picture of case 4.

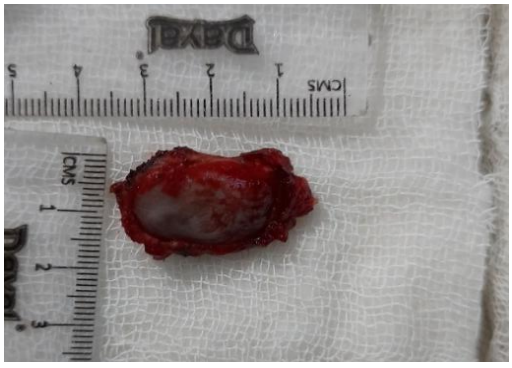

Figure 3: Excised specimen of case 4.

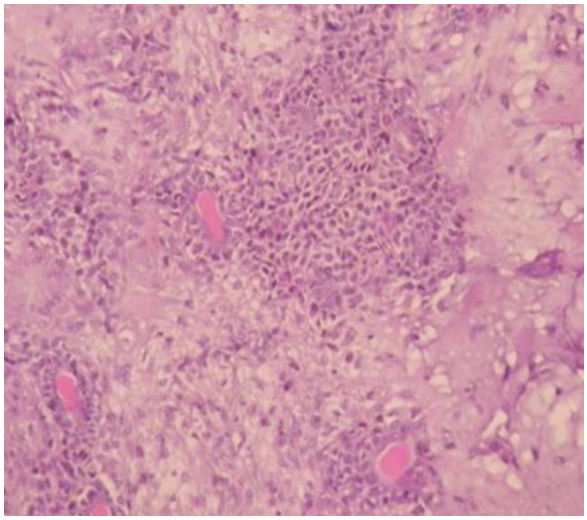

Figure 4: Histopathological examination report of case 4 showing pleomorphic adenoma features showing ductal epithelial and myoepithelial elements with chondromyxoid stroma.

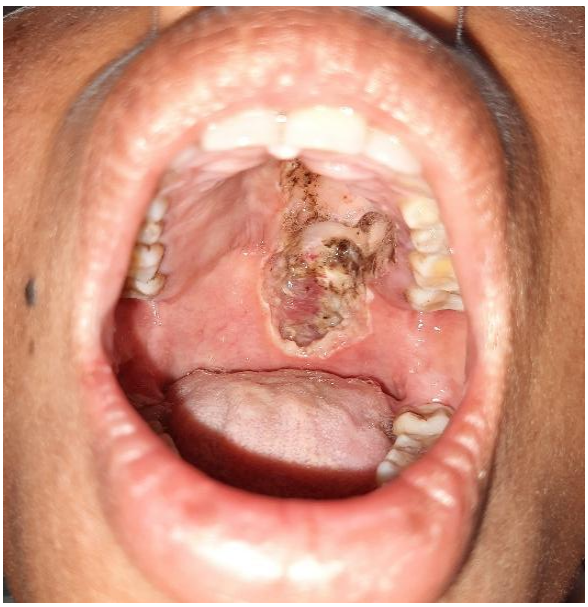

Figure 5: 3rd postoperative day of case 4.

DISCUSSION

Pleomorphic adenoma is the most common benign minor salivary gland tumour in the palate. The palatal pleomorphic adenoma patients show a prominent female predilection (2:1) and are nearly evenly distributed from 20 years to 79 years of age.[3] Plasmacytoid myoepithelial cell is the most characteristic tumour cell type in pleomorphic adenoma. Wide surgical excision is the treatment of choice for pleomorphic adenoma. Although ~84% of palatal pleomorphic adenomas are partially or nonencapsulated, recurrence (6%) of the lesion is rarely encountered after total surgical removal of the tumours.[4] Though pleomorphic adenoma of minor salivary glands is relatively rare but the malignant transformation potential is about 6%.[5] So, the diagnosis and excision should be done early. These tumours originate from intercalated and myoepithelial cells and contain both epithelial and mesenchymal tissues. Epithelial elements may be arranged in duct-like structures, sheets, clumps, or interlacing strands, and the stroma may be mucoid, myxoid, cartilaginous, or hyaline, surrounded by a fibrous pseudocapsule.[5] Based on the proportion of epithelial and stromal components, Seifert et al classified the tumour into four types. Type I is comprised of the principal myxoid variant, type II is myxoid and cellular variants, type III is predominantly cellular variants, and type IV extremely cellular variant, minor salivary gland pleomorphic adenoma is in general more cellular in nature.[6] The tumour has been linked with clonal chromosome abnormalities with aberrations involving 8q12 and 12q15.[5]

Differential diagnosis of pleomorphic adenoma includes odontogenic and non-odontogenic cysts, palatal abscess, mucoepidermoid carcinoma, adenoid cystic carcinoma, rhabdomyosarcoma, lymphoma, and soft tissue tumours, such as neurofibroma, fibroma, lipoma, and neurilemmoma, in children with hard palatal mass, lymphoma also should be kept as one of the differential diagnosis.[2,5,7] Pleomorphic adenoma is diagnosed based on history, physical examination, fine needle aspiration cytology (FNAC), and radiology. Computed tomography scans and magnetic resonance imaging aid in knowing the location, size, and extension of the tumour to the surrounding superficial and deep structures. Core needle biopsy has higher diagnostic accuracy (greater than 97%) as compared to FNAC.[7] The hard palate pleomorphic adenoma is treated by wide local excision with the removal of periosteum or bone if they are involved. Wide local excision involves removing the tumor along with a surrounding cuff of normal tissue as the tumor lacks a well-defined capsule and has pseudopods present.[8]

Reconstruction is required if there is full thickness defect in the bone and is done by obturator or palatal flap based on greater palatine vessels.[7] Soft tissue defects can be allowed to granulate and heal by themselves. Reconstruction is needed to maintain speech, swallowing, and anterior facial projection.[5] According to spiro, pleomorphic adenoma has a recurrence rate of 6%.[8] Most recurrences are due to inadequate surgical techniques such as simple enucleation, which leaves behind microscopic pseudopod-like extensions, capsular penetration, and tumour rupture with spillage of tumour cells. Hence, simple enucleation should be avoided. The recurrent tumours are often multinodular and lack surrounding capsules, making their surgical excision difficult.[7]

Seema et al published a similar case series with 3 cases that were treated by wide local excision and followed up for 6 months, but in our study, we followed up for 3 months.[10]

CONCLUSION

Pleomorphic adenoma of the palate is rare but has a 6% risk of malignant transformation. The presenting symptoms include a slow-growing painless submucosal swelling on the hard palate. Definitive diagnosis lies in histopathological examination. CT is necessary to rule out any bony erosions. Treatment is done by wide local excision with an adequate margin. Simple enucleation increases the risk of recurrence. Removal of periosteum and bone if involved. Reconstruction is only necessary if there is a full-thickness defect in the bone. Otherwise, excellent results are seen if the wound is allowed to granulate and heal by itself. Recurrences are uncommon but may be seen on long-term follow-up.

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