CASE REPORT

Pleomorphic adenoma of the hard palate: Report of a case

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Abstract
Pleomorphic adenoma is a benign tumor, which exhibits both epithelial and mesenchymal components. It is the most common neoplasm of the major and minor salivary glands. The palate is the most commonly affected minor salivary gland site. Clinically, the lesion occurs as a painless, slow-growing, dome-shaped mass with a smooth surface. Microscopic examination shows a mixture of glandular epithelial and myoepithelial cells within a mesenchyme-like background. Treatment consists of surgical excision down to the underlying periosteum. This paper describes a case of a pleomorphic adenoma of the hard palate, which was diagnosed in a 46-year-old female patient.

Keywords: Benign mixed tumor, hard palate, pleomorphic adenoma

Introduction
The pleomorphic adenoma is a neoplasm arising from the ductal epithelium of the major and minor salivary glands, exhibiting epithelial and mesenchymal components and is also called as “benign mixed tumor.” The variation in morphology of this lesion is a result of the interplay between these elements. It is thought that the same cell clone (ductal reserve or myoepithelial cell) gives rise to the epithelial and mesenchymal elements. The terms pleomorphic adenoma and mixed tumor both represent attempts to describe the unusual histopathologic features of this tumor.

Numerous theories have been proposed to explain the histogenesis of this lesion, most of which center around myoepithelial cells and reserve cells in the intercalated duct.

Pleomorphic adenoma is the most commonly occurring neoplasm in the salivary glands and represents around 60-75% of all salivary gland tumors. It is also the most common neoplasm in each of the salivary glands and accounts for around 70% of minor salivary gland tumors.

Case Report
A 46-year-old female patient reported to the out-patient department of our institution with a chief complaint of a painless swelling over the right palatal region since 2 months. History revealed that the swelling was initially of a small size and had progressively increased to its present size. There was no history of trauma and no relevant medical history. On extra-oral examination, no facial asymmetry was evident.

Intra-oral examination revealed a single dome-shaped swelling on the right side of the palate, which extended around 5mm from the palatal marginal gingiva in relation to 14 up to the 18 region, terminating at the midline of the palate, measuring 4 cm × 3 cm [Figure 1]. The swelling was firm in consistency with a smooth surface and non-tender on palpation. Examination of the adjacent teeth did not reveal any evidence of caries or mobility.

An intraoral periapical radiograph showed bone loss up to the junction of the cervical and middle one-thirds of the roots, with the absence of any other bone changes [Figure 1]. The swelling was firm in consistency with a smooth surface and non-tender on palpation. Examination of the adjacent teeth did not reveal any evidence of caries or mobility.

An intraoral periapical radiograph showed bone loss up to the junction of the cervical and middle one-thirds of the roots, with the absence of any other bone changes [Figure 2]. A maxillary true occlusal view also did not show any evidence of bone involvement [Figure 3].

Based on the history, clinical, and radiographic findings, a provisional diagnosis of a benign minor salivary gland neoplasm, with pleomorphic adenoma being the most likely, was made. A clinical differential diagnosis of a neurofibroma, lipoma, and the palatal abscess was considered. Aspiration biopsy of the lesion showed no fluid collection. Routine hematological investigations carried out were within normal limits. The lesion was treated conservatively with careful surgical excision, followed by placement of a palatal obturator. Histopathological examination showed a stratified squamous parakeratinizing epithelium with an underlying connective tissue stroma. The overlying epithelium and tumor mass were separated by a pseudocapsule. The tumor...
mass showed an epithelial and a mesenchymal component. The epithelial component comprised large numbers of ductules and tubules lined on the inner aspect by a cuboidal cell layer with eosinophilic coagulum in the center. The outer layer of cells were arranged in sheets and nests and resembled myoepithelial cells. The mesenchymal component was made up of areas of chondromyxoid tissue, areas of mucoid and eosinophilic coagulum [Figure 4]. Based on the histopathological findings, a final diagnosis of a pleomorphic adenoma was made.

Postoperative healing was uneventful [Figure 5]. The patient has been under regular follow-up for the last 1-year, during which time clinical examination has revealed no evidence of recurrence.

Discussion

The pleomorphic adenoma is a benign mixed tumor containing both epithelial and myoepithelial cells, which are organized in

Figure 1: Intra-oral view showing a swelling on the right side of the palate

Figure 2: Intra-oral periapical radiograph showing periodontal bone loss, but no other bony changes

Figure 3: Maxillary true occlusal view showing absence of any bony lesion

Figure 4: Photomicrograph showing a tumor mass with an epithelial and mesenchymal component, suggestive of pleomorphic adenoma (H&E stain at 40x magnification)

Figure 5: Post-operative intra-oral view
Pleomorphic adenoma of the hard palate

Different morphological patterns and are delineated from the surrounding tissues by a fibrous capsule. The palate is the most commonly affected minor salivary gland site (due to the large number of minor salivary glands in this region). Other intra-oral sites of this tumor include the upper lip and buccal mucosa. Rarely lesions may also occur on the tongue, the floor of the mouth, pharynx, and retromolar area.

This neoplasm is commonly seen in the fourth to sixth decades of life, but can occur at any age, and a slight female predilection is noted. It is also the most commonly occurring neoplasm of the salivary glands in children and represents 66-90% of all salivary gland tumors. It usually presents as a unilateral, slow-growing, asymptomatic, firm and mobile mass, that rarely ulcerates the overlying skin or mucosa. The vast majority of these tumors are between 2 cm and 6 cm in size. Intra-orally, the lesion usually present as a painless, smooth surfaced, dome-shaped mass on the posterior palate. It appears to be fixed since the mucosa of the hard palate is tightly bound. However, lesions of the lips and buccal mucosa are freely movable. The present case was diagnosed in a 46-year-old female patient and involved the palate. The age, sex, location, and clinical appearance of the present case were thus similar to that described previously in the literature.

Pleomorphic adenomas do not show invasion of underlying bone, but pressure from the lesion may cause a “cupped-out” resorption pattern in the bone. Our case did not show any bone involvement. Imaging with ultrasound, magnetic resonance imaging, or Computed Tomography may be used for large tumors. Histologically, pleomorphic adenoma shows a mixture of epithelial, and myoepithelial elements, within a background stroma that may be mucoid, myxoid, chondroid or fibroid. The epithelial elements consist of polygonal, and spindle or stellate-shaped cells, which may be grouped in duct-like structures, or as sheets or interlacing strands. The present case also showed the typical microscopic features of pleomorphic adenoma as described above. A fibrous pseudocapsule, which varies in thickness surrounds the tumor. A characteristic of this lesion is the presence of microscopic tumor projections on the outside of the capsule; failure to remove these projections along with the tumor results in recurrence of the lesion.

The differential diagnosis for intra-oral lesions includes palatal abscess, soft-tissue tumors such as fibroma, neurofibroma or lipoma, cysts (odontogenic and non-odontogenic), besides other tumors of the salivary glands. The treatment of choice for pleomorphic adenoma is surgical excision. Hard palate tumors are usually treated by excision down to the underlying periosteum, which includes removal of the overlying mucosa. Malignant transformation, although rare, has been reported in around 5% cases. Suspicion regarding malignant transformation may result from a sudden change in growth and local signs of malignancy including pain, spontaneous bleeding from the region, ulceration, and tissue invasion. Our case was treated by surgical excision and no recurrence has been noted till date.

Conclusion

Even though pleomorphic adenoma of the minor salivary glands is a benign, slow-growing and painless neoplasm, diagnosis and treatment at an early stage can prevent further complications like difficulty in mastication and speech. Careful surgical removal is necessary to avoid recurrence (due to multifocal seeding of the primary tumor bed) and malignant transformation.

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References