Large Pleomorphic Adenoma of Minor Salivary Gland in the Parapharyngeal Space Excised Through Transoral Approach - A Rare Case Report

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ABSTRACT
Parapharyngeal Space Tumors (PPST) being uncommon, constitute some 0.5% of Head & Neck Neoplasms. Pleomorphic adenomas in parapharyngeal space (PPS) are commonly of primary parotid gland origin, however, very rarely minor salivary gland pleomorphic adenomas may occur and arise from ectopic minor salivary tissue in parapharyngeal space. Treatment is complete surgical excision and conventionally wide surgical approaches like trans cervical approach are utilized. We report a rare case of a large pleomorphic adenoma of minor salivary gland in the right parapharyngeal space and treated with complete surgical removal done by transoral route without any complication and recurrence. Literature review reveals only few cases of large of pleomorphic adenomas removed by transoral approach.

KEY WORDS: Pleomorphic adenoma, Parapharyngeal space, tumors, Minor salivary tumors, Transoral approach, Management.

HOW TO CITE THIS:

INTRODUCTION
Parapharyngeal space (PPS) resembles an inverted pyramid bounded by infratemporal fossa anteriorly, lateral pharyngeal wall and nasopharynx medially, cervical vertebrae posteriorly, and ramus of mandible laterally with its base situated on the skull base and the apex is directed downwards. The styloid process divides it into a pre-styloid and a post-styloid area, with the carotid sheath along with its contents located in the post styloid compartment. Both inflammatory and neoplastic lesions may be seen in PPS. Parapharyngeal Space Tumors (PPST) comprise of 0.5% of Head and Neck tumours with 82% being benign and 18% malignant. 80% of the PPSTs arise from salivary and neurogenic tissue, and some have lymphoreticular origin. The most common benign tumors are of salivary gland origin i.e., 30-80% in different studies, and commonly arise from the parotid gland, and rarely from ectopic salivary tissue nests, or minor salivary glands which may occur in the pharyngeal space. Pleomorphic adenoma being the commonest pre-styloid tumor. Primary pleomorphic adenoma is the commonest type arising from the deep lobe of parotid gland. However pleomorphic adenoma originating from minor salivary nests in PPS is quite rare. Treatment of such lesions in PPS is complete surgical removal usually through trans-cervical approach.

In this paper, we report a rare case of large minor salivary pleomorphic adenoma which was located in the PPS and presented with breathing difficulty. Tumor was removed using transoral approach. Use of this approach for removal of large PPS masses is rare.

CASE REPORT
A 61-year-old male presented to the Department of Otolaryngology with a 7 year history of painless slowly growing mass in the right wall of nasopharynx, pushing the soft palate downwards and accompanied with breathing difficulty for 2 years, with no history of smoking or alcohol intake. Examination revealed a soft palatal bulge on the right side extending to the midline and deep down to the throat with smooth overlying mucosa (Figure-1) and normal nasal patency. There was no palpable mass in neck. Neurological examination was unremarkable. Computed Tomography (CT) revealed a well-defined soft tissue density ovoid mass, centered in the right PPS, measuring 37 mm transverse x 28 mm AP diameter with cranio-caudal length of 43 mm (Figure-2), with smooth margins and was compressing the base of tongue anteriorly. Since the FNAC was inconclusive, MRI with contrast was done, which revealed a well-defined soft tissue mass in right PPS, measuring 42 mm in transverse and 39 mm in AP dimension with 52 mm cranio-caudal extent, causing midline shift and narrowing of oropharynx and part of nasopharynx (Figure-3). The mass was isointense on T1W1 while it was hyper-intense on T2W1. There were few foci inside the mass which are hyper-intense on T1 and few brighter on T2. Mass was pushing carotid space laterally but fat plane between the mass and carotid space was intact. No lymphadenopathy and intracranial extension was

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noted. Mass was removed by transoral transpalatal approach by splitting soft palate in midline. Post-operative period was uneventful. Gross examination of specimen removed showed 5 x 4 cm mass which was cut into two pieces (Figure-4-a). Both were well defined nodular pieces of tissue, larger one measuring 4 x 2 x 1.5 cm and smaller piece 3 x 2.5 x 1.5 cm (Figure-4-b). Cut surface was shiny and soft with homogenous appearance. Histopathological examination showed Pleomorphic adenoma with chondromyxoid background. It was a focally encapsulated tumor composed of nests and tubules of epithelial and myoepithelial cells, reaching up to the margin.

DISCUSSION

The PPSTs are very uncommon and comprise of 0.5% of head and neck neoplasms most being benign. Riffat et al. in a big study reported 82% benign and 18% malignant. Nearly same frequency has been reported by other authors. Pleomorphic adenomas (PA) account for 45 -75% of salivary tumors and are the most common benign PPS tumors with varying percentage reported. i.e from 34-62 as reported on literature (3-6). Schawanoma and Paraganglioma occur with lesser frequency. PA commonly arise from parotid with giant PA having been reported from Pakistan. Primary pleomorphic adenomas usually arise from the parotid’s deep lobe. On the other hand, minor salivary gland neoplasms account for 22% of all salivary neoplasms, 75% being malignant and 25% benign with pleomorphic adenoma being the common benign variety. Gender distribution is almost equal. Minor salivary PA usually occurs in the palate, although other areas of the oral cavity (lips, cheek mucosa, floor of mouth, tongue, tonsil, retromolar area), pharynx and nasal cavity are also involved. Treatment of choice is wide surgical excision with suitable surgical technique. PPS being a very rare site for occurrence of minor salivary pleomorphic adenoma, with very few reported cases. When occur, they develop from ectopic minor salivary tissue, present in lymph node in PPS. This may be the cause of de novo occurrence of pleomorphic adenoma in the right PPS in our case. Benign lesions of the minor salivary glands in the oral cavity usually present as asymptomatic swellings. Those which arise in PPS may appear as mucosa covered swell-
ings in the lateral pharyngeal wall. They may also extend to the retromandibular trigone and/or submandibular area and present as neck swellings\(^2,14\). They may produce pressure effect on adjacent structures resulting in swallowing and breathing difficulties\(^4\), while malignant tumors can present with pain, earache, neuralgia, nerves palsies (9\(^\text{th}\) to 11\(^\text{th}\)), trismus and a hoarse voice\(^5\). In our case the patient presented with pharyngeal mass having breathing difficulty only. The diagnostic evaluation mainly depends on appropriate radiological investigation including CT scan and MRI. Although MRI is the method of choice for imaging the PPS\(^15\), CT is also important since it helps in evaluation of site and extent of the pathology, any local spread including bone involvement\(^6\). In PPS, CT can help to identify fat plane to differentiate a benign from malignant tumor. The detection of fat plane is also helpful to distinguish a benign tumor arising in the PPS like a pleomorphic adenoma of minor salivary glands from a tumor originating from the deep lobe of the parotid. Suspicion of vascular tumor on CT or MRI, warrants angiography. MRA may provide more detail in case of vascular lesions\(^7\). Fine needle aspiration cytology (FNAC) is the investigation of choice to collect tissue for diagnosis from PPS\(^8\). Accuracy rate of FNAC has been reported from 90 to 100% by different authors\(^6,17,18\). However its use in PPS tumors by Ehrlich in 1950 helps in evaluation of site and extent of the pathology, any local spread including bone involvement\(^9\). In our case since the tumor was palpable in the neck, attempt was made in obtaining a sample trans-orally which did not prove to be diagnostic. Microscopically, PA has epithelial and myoepithelial elements arranged in different patterns in its stroma, which is made up of mucopolysaccharides. A false capsule is formed due to fibrosis of surrounding salivary tissue because of pressure effects of the tumor\(^11\). The treatment of choice of pleomorphic adenoma is complete surgical removal\(^11,16\). In the studies reviewed by Riffat et al., 95% of cases of parapharyngeal tumors underwent surgical removal\(^3\). A number of approaches have been described in literature three basic ones being trans cervical, trans-parotid and mandibular swing\(^6\). Usually surgical approach which gives a wide intra operative visibility is chosen keeping in view it causes minimal functional and/or cosmetic side effects. The most common approach used for excision is the trans cervical approach (48%)\(^1,13\), followed by trans cervical trans parotid + mandibulotomy with possible cranial nerve palsies\(^3\). Transoral approach is rarely used and that even in small tumors. However, we used the transoral approach in our case with a large tumor without any complication. Similar approach has been reported in a review by Riffat et al., in four cases\(^3\) and Hussain et al., in 5 cases\(^20\). The trans-oral approach was first described by Ehrlich in 1950\(^21\). Current trend is growing towards minimal invasive trans-oral route for such tumors and robotic surgeon\(^20\).

CONCLUSION

Minor salivary pleomorphic adenoma in PPS is a possibility and should be kept in differential diagnosis of PPS masses. Surgical approach should be chosen with caution, however minimal invasive approaches like transoral approach can also be adopted with caution in selected cases where neurovascular bundle is lateral to the mass.

REFERENCES


