Accessory parotid gland tumors

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Tumors of accessory parotid gland are considered in the differential diagnosis of a mid cheek mass. Parotidectomy is the procedure of choice. All pathological types of parotid main gland tumors occur in the accessory parotid gland also. Presenting as a mid cheek or infrazygomatic mass, the tumors of this accessory parotid gland are notorious for recurrences, if adequate margins are not achieved. We describe two such cases of such a tumor. 40-year-old male with a slowly progressive mid cheek mass was operated by a mid cheek incision. Histopathology of the tumor was pleomorphic adenoma. Facial nerve paresis recovered completely in 6 months. A 52-year-old female with progressive mid cheek mass who underwent parotidectomy and neck dissection by a modified Blair’s incision was diagnosed with extranodal marginal zone lymphoma with focal transformation to a diffuse large B-cell lymphoma. Chemotherapy with CHOP regime was initiated. There was no recurrence at 6 months of follow-up. Lymphoma of accessory parotid gland is a very rare tumor. Standard parotidectomy incision is advocated to prevent damage to facial nerve branches.

Keywords: Accessory parotid gland tumors, non-Hodgkin’s lymphoma

INTRODUCTION

An accessory parotid gland is the salivary tissue present in close association or anterior to the Stensen’s duct, lying on the masseter muscle but away from the main parotid gland.1-3 These accessory parotid glands have their own blood supply from the transverse facial artery and have secondary duct empting into the Stensen’s duct.4 We report two cases of neoplasms arising from accessory parotid gland, a pleomorphic adenoma and a non-Hodgkin’s lymphoma (NHL). Accessory parotid gland tumors are reported to occur in 1–7.7% of all the parotid gland tumors.5-7 In the literature, four cases of NHL arising from the accessory parotid gland have been reported till date.2,3,9 A high index of suspicion is necessary for making a preoperative diagnosis as this is an uncommon occurrence. For surgical treatment, this tumor can be approached through either of two incisions, i.e., standard modified Blair’s incision or mid cheek incision. Mid cheek incision is associated with higher incidence of facial nerve branch damage.

MATERIALS AND METHODS

Case 1
A 40-year-old male complained of a swelling in the middle portion of the left cheek since 4 years. The swelling was insidious in onset and slowly growing in size. On examination, the swelling was 5cm in diameter, nontender, firm in consistency, and mobile in both axis [Figure 1]. A diagnosis of accessory parotid tumor was considered in the differential diagnosis. Fine needle aspiration cytology (FNAC) was done, which was indicative of pleomorphic adenoma. Patient underwent exploration through a mid cheek incision. On exploration, the tumor was found to be arising from the accessory parotid gland lying on the masseter muscle, with the parotid duct deeper to it [Figure 1]. The branches of the facial nerve had become splayed by the tumor. They were dissected free and the tumor was excised with the entire accessory parotid gland with a healthy margin. Postoperatively, patient had paralysis of both the buccal and the zygomatic branches, which recovered completely in 6 months. Patient also had glandular salivary fistula which healed in 3 weeks time. Histopathology confirmed...
pleomorphic adenoma with a wide surgical margins [Figure 2].

**Case 2**

A 52-year-old female patient presented with a swelling over the left cheek of 2 years duration [Figure 3]. It was insidious in onset and was gradually progressive in size. Patient had recent onset pain in the swelling. The swelling was 3 × 3 cm in size and was situated in the area just below the left zygomatic arch and was above the imaginary line between angle of mouth and tragus. It was hard in consistency, tender with restricted mobility. FNAC done was suggestive of pleomorphic adenoma. The tumor was approached through a modified Blair’s incision. The tumor was arising from the region corresponding to the Accessory parotid gland. Zygomatico-temporal division and the buccal branches of the facial nerve were on either side of the tumor and splayed by it [Figure 4]. They were separated from the tumor with difficulty, and excision of the tumor with a superficial parotidectomy was performed. Supraomohyoid neck node dissection was combined with this procedure [Figure 5]. Postoperatively, patient had mild paresis of the buccal and the zygomatic branches of the facial nerve which recovered in 6 months [Figure 6]. The histopathology of the tumor was diffuse small cell type NHL of the accessory parotid gland with circumferential and deep margin involvement with no lymph node foci of tumor [Figure 7]. Immunohistochemistry was CD20 positive and negative for CD3, Cyclin D1, CD5, CD68, MPO, and Tdt. Focal positivity for CD10 and dispersed positivity for CD23 were suggestive of a residual follicular dendritic cell network with identifiable groups of large cells. Hence, a diagnosis of extranodal marginal zone lymphoma with focal transformation to a diffuse large B-cell lymphoma was made. A staging workup with PET-CT, bone marrow aspiration, and biopsy revealed no other foci of tumor. Patient was started on chemotherapy with following regimen. CHOP chemotherapy (1st cycle—Vincristine 2 mg, Cyclophosphamide 1000 mg, Daunorubicin 70 mg, and Prednisolone 16 mg; second and third cycle—Vincristine 1 mg, Cyclophosphamide 500 mg, Daunorubicin 35 mg, and Prednisolone 16 mg). There was complete recovery of facial nerve palsy with no recurrences at 6 months follow-up.

**DISCUSSION**

The accessory parotid gland is defined as a salivary tissue which is separated from the main parotid gland and lying on masseter

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**Figure 1:** (Case 1) Left cheek mass over the masseter with mid cheek incision which was pleomorphic adenoma on histopathology

**Figure 2:** (Case 1) HPE: Amorphous myxoid stroma resembling cartilage tissue, with interspersed islands and strands of myoepithelial cells (H & E, x40)

**Figure 3:** (Case 2) White arrow—well-defined mid cheek, infrazygomatic, mass lesion with no evident facial nerve palsy; inset—lateral view

**Figure 4:** (Case 2) Intraoperative findings of the tumor in accessory lobe of parotid with splayed zygomaticotemporal branch and its relation to the Stensen’s duct

**Figure 7:**

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**Figure 8:**

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**Figure 9:**

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muscle in front of the Stensen’s duct. Tumors arising from the accessory parotid gland are usually found above the midpoint of an imaginary line extending from the tragus to a point midway between the ala of the nose and the vermilion border of the upper lip which corresponds to the accessory parotid tissue. It is usually located on the anterior portion of the main gland and has a secondary duct emptying into the Stensen’s duct. Frommer has described anatomical features of the accessory parotid gland in detail. There are two types of anterior extension of the parotid gland: one is “facial process” which is attached directly to the main gland. The other is “detached glandular mass” or “accessory parotid gland” which is completely separated from the main gland. The average distance of separated accessory parotid glands from the anterior edge of the main gland is about 6 mm. The accessory parotid gland exists in 21–61% of individuals according to various autopsy studies. An autopsy study by Toh et al. described a mixed secretory glands variety (i.e., containing both serous and mucous acini). The pattern of differentiation of a significant fraction of accessory glands differs from that of the main parotid gland: it appears that mixed acini present in the early stages of development persist into later life, and their presence may be related to tumors developing at these sites.

Johnson and Spiro reported a 1% incidence of parotid neoplasms arising from the accessory lobe of the parotid gland, more than a quarter of which were primary malignant tumors. Perzik and White reported a 7.7% incidence of parotid neoplasms arising from the accessory lobe of the parotid gland and 26% of which were primary malignant tumors.

Histologically, Pleomorphic adenoma is the most common benign tumor, and mucoepidermoid carcinoma is the most common malignant tumor. A clinicopathological study by Lin et al. on Tumors of the accessory lobe of the parotid gland identified eight cases of accessory lobe parotid tumors. All of the patients presented with a slowly growing cheek mass. There was one case of carcinoma ex-pleomorphic adenoma, one case of undifferentiated carcinoma (small cell carcinoma), one case of basal cell adenocarcinoma, one case of benign salivary cyst, two cases of pleomorphic adenoma, and two cases of monomorphic adenoma. Accessory parotid glands are associated with a higher rate of malignant tumors (26–50%) than are the main parotid glands (18–20%). It has been postulated that this higher rate of malignancy is attributable to the histology of the accessory parotid gland. In contrast to the predominant serous composition of the main parotid gland, the accessory parotid gland is made up of a fairly equal percentage of mucinous and serous acinar units, as is the submandibular gland. The lack of anatomic barriers to tumor extension predisposes these tumors to significant soft-tissue infiltration. There are several reports of malignant lymphoma of the head and neck region. Till date only, four cases of NHL of accessory parotid gland have been reported in English literature.

Diagnostic features of the accessory parotid gland tumor do not differ greatly from those of the main parotid gland tumor. Diagnostic x-ray films are limited in their usefulness and sialograms provided only visualization of accessory glands for diagnostic purposes. Magnetic resonance imaging and CT sialography are useful for visualizing the accessory parotid gland tumors separately from the main parotid gland.
There are two classical surgical approaches in dealing with tumors of the accessory lobe of the parotid gland: cheek incision and standard parotidectomy or modified Blair’s incision.[10] In cheek incision as in case 1, the tumors are approached through a limited incision over the tumor in the middle of the cheek. This approach is associated with a higher incidence of damage to facial nerve branches, because of the superficial location of the buccal and zygomatic branches of the facial nerve.[2,3] Johnson and Spiro[11] reported a 40% incidence of facial nerve damage when the tumors are approached via a cheek incision directly over the tumors. The cheek incision may result in an inadequate excision of the tumor. The best surgical approach to tumors in the accessory parotid gland is via a standard parotidectomy incision with an anterior extension and concomitant superficial parotidectomy as in our case 2. This approach to accessory parotid gland tumors is superior in that it provides a better margin of resection and minimizes functional and cosmetic deformities. Most importantly, there is less danger of injury to branches of the facial nerve.[2,3] Johnson and Spiro[11] reported only a 7% incidence of temporary facial palsy with modified Blair’s incision and all such cases had good nerve recovery.

CONCLUSION

Accessory parotid gland tumors form 1% of all the parotid gland tumors. Accessory parotid gland neoplasms should be considered in patients with swelling in the mid cheek region or present above the imaginary line joining tragus to the midpoint of alae of nose and upper lip vermilion border. The histology and the behavioral pattern of the tumors of the accessory gland do not differ much in comparison with the main parotid gland tumors. Avoidance of damage to the facial nerve branches, excision with wide surgical margins, and cosmetic outcome can be achieved if a standard modified Blair’s incision is adopted even for mid cheek masses. This is the 5th case report of the NHL of the accessory parotid gland.

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