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A Rare Case Report of Pleomorphic Adenoma of the Parotid Gland in 11Year old Boy

KEYWORDS

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ABSTRACT *Salivary gland tumors are rare in children and, when they do arise, they mainly affect the major salivary glands. Minor salivary gland tumors are rare in children and are responsible for less than 10% of the cases. Pleomorphic adenoma is the most common tumor of the salivary glands*

We report a case of 11 year old boy who came to general surgery department in ASRAM in eluru with chief complaints of swelling in the right cheek since 3 years. Investigations later revealed pleomorphic adenoma for which superficial parotidectomy was done .

INTRODUCTION

Salivary gland tumors (SGT) are uncommon and account for 1% of all head and neck neoplasms. SGT are more common in adults. Minor salivary gland tumors (MSGTs) are unusual, accounting for only 15-20% of all SGTs. Only 0.32-5% of all salivary gland tumors occur in children aged less than 16 years.About 90% of pleomorphic adenomas (PAs) occur in the parotid gland and 10% in the minor salivary glands. SGT are rare in children and affect the major salivary glands. MSGTs are rare in children. They are responsible for only 5-10% of all salivary tumors under 20 years of age.

CASE REPORT

A 11-year-old boy presented to the general surgery outpatient department of the ASRAM Hospital, Eluru, Andhrapradesh, INDIA with a swelling in the right cheek of 3years duration. There was no history of trauma. This was a painless swelling and did not bleed. He did not have fever. No H/o loss taste sensation.

On examination:

Patient was well nourished and moderately built, Temperature :98.6®f, Pulse rate was 96/min, BP:110/70mmhg. There was a firm, globular swelling measuring about 2 cm × 2 cm in the right cheek. The swelling was non-tender and not mobile and had a smooth surface. His oral hygiene was good and there was no dental caries. The cervical lymph nodes were not enlarged. The swelling was lifting the right ear lobule anteriorly. Swelling was not palpable bimanually.

Patient was able to raise the eye brow or wrinkle the fore head, close the eyelid completely , could blow the cheek and was able to retain the air in oral cavity , able to smile , show teeth , able to taught the platysma muscle.

FNAC of the swelling was done : shoes ductal cells, myoepithelial cells and chondroid matrix.

Patient was prepared for surgery and superficial parotidectomy was done under general anesthesia , with care full dissection of the parotid by preserving the all branches of the facial nerve. The specimen was sent for histopathology. Patient had mild neuropraxia post - operataivelty and which was resolved after 6 months.

Intra operative photos:

Figure :A Figure : B

A: Preserved all branches of facial nerve

B: separating the gland from the facial nerve

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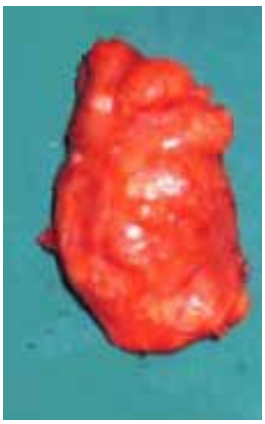
Figure :c : post operative specimen



Microscopy:
Encapsulated lesion composed of both stromal and epithelial component, the epithelial component consists of round to polygonal cells arranged in solid sheets and elongated strands wavy nuclei with coarse chromatin pattern and moderate cytoplasm. Some areas show epithelial cells as well as myoepithelial cells found within the chondroid matrix material. Plenty of mucin rich areas in which few plasmacytoid cells are seen floating , with normal salivary tissue seen at one end

DISCUSSION
SGT are rare in children and are responsible for only 5-10% of all SGTs. SGT are rare in children and are responsible for only 5-10% of all SGTs. PA is histologically characterized by a variety of tissues consisting of epithelial cells arranged in a cord-like cell pattern with a plasmacytoid appearance. Myoepithelial cells are responsible for the production of abundant extracellular matrix with chondroid, collagenous, mucoid and osseous stroma. Both epithelial and mesenchymal elements arise from the same cell clone, which may be myoepithelial or ductal reserve cell. PA usually presents as a mobile, slow-growing, painless mass; at times, it may grow rapidly. A sudden increase in size may be indicative of infection, hemorrhage or malignant transformation

Most of the PA from the minor salivary glands in children was noted between the ages of 10 and 18 years. Differential diagnosisneurofibroma, rhabdomyosarcoma, lipoma, dermoid cyst, foreign body reaction, mucocele, buccal space abscess, fibroma, adenoid cystic carcinoma and mucoepidermoid carcinoma. In our case, the lack of inflammatory signs, ulceration, pain and invasion ruled out infection and malignancy.The surgical treatment of PA of parotid is superficial parotidectomy with good safety margins to prevent recurrence.PA behavior in children is similar to that of adults, with a low recurrence rate after complete surgical resection.

Tumors of the parotid gland are rare in children. As in the adult population, benign tumors make up the majority of pediatric parotid gland tumors. Most studies list pleomorphic adenoma as the most common benign tumor of the parotid, followed by hemangioma . While relatively rare, pleomorphic adenoma of the parotid gland presents a therapeutic challenging the pediatric population. Its benign histology dictates removal with an eye toward preservation of the facial nerve. However, its predilection for recurrence and risk of malignant degeneration in a patient population with a long life expectancy requires aggressive treatment. Pleomorphic adenomas typically present as slow growing, painless masses of the parotid. Untreated , pleomorphic adenomas have a 2-25% risk of malignant degeneration . In adults, fine needle aspiration biopsy establishes the diagnosis with good accuracy when sufficient specimen is obtained and a skilled cytopathologist is available . In our series, patients were diagnosed via fine needle aspiration. However, in children, fine needle aspiration often requires sedation, and has the risk of insufficient cells for diagnosis. For these reasons, fine needle aspiration is less desirable in the pediatric population. Instead, diagnosis is typically made by surgical excision, usually with the aid of preoperative imaging. Ultrasonography is a well-tolerated method of evaluating parotid masses in children. It requires no sedation and does not expose the child to radiation. Ultrasound imaging is useful in differentiating solid parotid masses from cystic ones, and for determining intra-parotid versus extra-parotid location .Pleomorphic adenomas have been identified by ultrasound based on their distinct margins and polycyclic shape. However, generally, it has limited usefulness with respect to the diagnosis of and preoperative planning for solid parotid tumors. For this reason, ultrasonography is not commonly used in the preoperative evaluation of a parotid mass . The most common imaging modalities used in evaluation of parotid masses are CT and MR . While all of the patients in this study were old enough to be examined without the need for sedation, this is a concern in children. Each modality has its strengths and weakness. While CT requires a shorter imaging time and provides excellent spatial resolution, it does expose the patient to ionizing radiation and soft tissue characterization is limited. If images are acquired during the intravenous administration of the contrast bolus, limited delayed images of the mass should be obtained to assess enhancement characteristics. On the other hand, soft tissue characterization of masses is excellent on MR, and there is no exposure to ionizing radiation. However, the examination is costly, more time consuming, and more likely to require sedation in young children. Both modalities are useful in distinguishing between solid and cystic masses and differentiating lymph nodes from parotid parenchymal tumors.. Imaging characteristics of a pleomorphic adeoma on MR have typically been described as a well-circumscribed tumor that is hyperintense to muscle on T2-weighted imaging. On T1 images the tumor is often hypointense or isointense to muscle. Studies also report that an enhancing capsule on T1 imaging with contrast , and lobulation of the tumor are also predictive of pleomorphic adenoma . In our study, pleomorphic adenoma was suspected based on these ivestigations characteristics in our patients who underwent FNAC and post surgical biopsy .Computed tomography findings in pleomorphic adenomas are less distinctive by most reports.

CONCLUSION
Conclusions: Pleomorphic adenoma is one of the most common tumors of the parotidPleomorphic adenoma is one of the most common tumors of the parotid in children. The most common presentation is an asymptomatic mass. A preoperativeevaluation with MRI or CT scan can be helpful in determining the extent of the lesionand surgical planning. Complete excision via superficial or total parotidectomy withpreservation of facial nerve is the treatment of choice. Long-term follow up isrecommended, though was difficult in a tertiary care center.To conclude, this case report alerts the clinicians about the unusual causes of cheek swellings. PA of the parotid is rare and should be considered in the differential diagnosis of swellings of the

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cheek in children

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