

PLEOMORPHIC ADENOMA OF SUBMANDIBULAR GLAND - A CASE REPORT

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Abstract

Pleomorphic adenoma is the most frequent slow growing benign tumor of the salivary glands. Pleomorphic adenoma is more common in parotid gland followed by submandibular gland. Clinically, as in other glands pleomorphic adenoma of submandibular gland grows slowly with high prediction for females. The incidence is more in age group 30-60 years. Treatment of choice for PA is surgical resection in maximum of cases.

Keywords: Pleomorphic adenoma, Benign tumor, Surgical resection.

Introduction

Pleomorphic adenoma is the most frequent slow growing benign tumor of the salivary glands. The incidence varies 60-70% in parotid gland tumors, 40-60% in submandibular gland and 40-60% in minor salivary gland tumors^{1, 2}. The name pleomorphic adenoma was suggested by Willis. The incidence is highest between 30 to 60 years of age with female predominance.³Symptomatically, it start as a painless tumor but may cause pain or facial nerve palsy in advance stage.^{4, 5}only 3-4% of all pleomorphic adenoma has tendency to convert into carcinoma.³Microscopically, Pleomorphic adenoma is an epithelial tumor of complex morphology, comprising epithelial and myoepithelial elements arranged in variety of patterns and surrounded by mucopolysaccharide stroma.⁶Treatment of choice is surgical resection in maximum of cases.⁷Here we present a case with painless swelling on the left Submandibular region. On the basis of clinical, radiological features and FNAC report, a diagnosis of pleomorphic adenoma was made and planned for complete surgical excision.

Case report - A 27 years old female presented with painless swelling on the left submandibular region. The swelling was noticed 2 years back, slow growing and was not associated with any pain and difficulty in swallowing. Clinical measurable size of the swelling was 6 x 4 cm, with no discoloration of overlying skin (Figure 1).



Figure 1: Swelling on left submandibular region

On palpation, the swelling was firm, non-tender, unilobular and was not fixed to any underlying or overlying structure.

It was palpable bimanually. Computed tomography (CT) scan report showed a well-defined radiolucent mass in left submandibular region on medical aspect of left body of mandible (Figure 2 & 3).

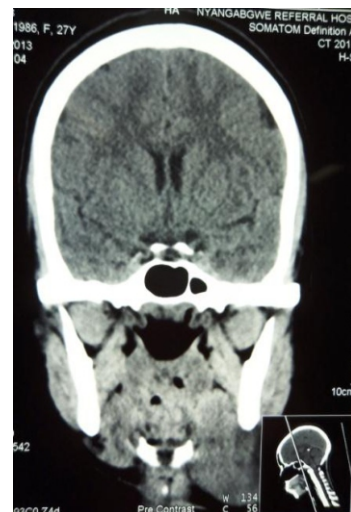


Figure 2: CT scan of submandibular region

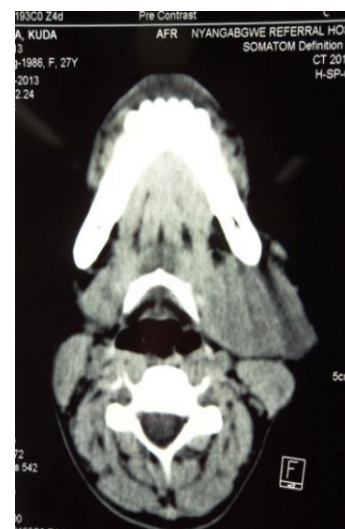


Figure 3: CT scan of submandibular region with well defined radiolucency

A provisional diagnosis of Pleomorphic adenoma was made and was confirmed by fine needle aspiration cytology (FNAC). Surgical excision of left submandibular gland was planned under General anesthesia. Standard submandibular incision was made and the submandibular gland with encapsulated mass was excised and sent for histopathological examination (Figure 4 & 5).



Figure 4: Surgical excision of left submandibular gland



Figure 5: Submandibular gland with encapsulated mass

Primary closure was done in a layer-wise manner with no drain attached. Healing was uneventful with no complications noted. The histological examination was confirmatory of PA (Figure 6). The patient is being followed up regularly for almost 1 year, with no recurrence noted.

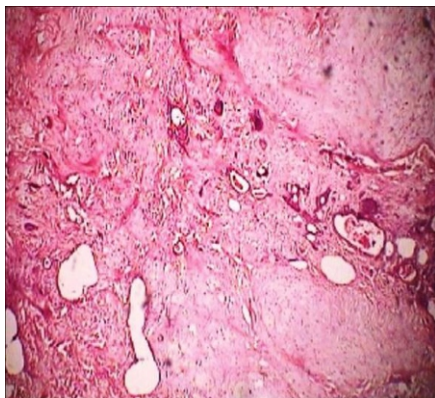


Figure 6: Histological examination

Discussion

Pleomorphic adenoma is the most common and benign mixed tumor of salivary gland. It is a painless, slow growing tumor, composed of biphasic population of epithelial

and mesenchymal cells. 90% of pleomorphic adenoma occur in parotid gland (represent 60% of parotid tumors; 50% occur in tail, 25% in superficial lobe, 25% in deep lobe), 10% in submandibular gland, rare in sublingual gland.² The lower pole of the parotid gland is the most common location but deep lobe tumors can present as a parapharyngeal mass. The accessory parotid is occasionally involved.⁴ The submandibular gland is involved in only 5% to 10% salivary gland tumors and PA is most common affecting it accounts to approximately 60 to 70%.⁵ with female predilection.

Grossly, they are well demarcated, partially encapsulated, with a gray-white cut surface. Tumor extension into adjacent tissue may be subtle. Histologically, there are often tongue-like protrusions into the surrounding salivary gland. A thick capsule may be present; in this case, there were focal areas of capsular thinning. The epithelial cells are usually glandular and occasionally squamous, spindle or oval, with large hyperchromatic nuclei. A myoepithelial layer may be present. The stroma is usually myxochondroid or hyaline. Mucin is often present. There is no atypia, no mitotic figures and no necrosis. The reported annual incidence is 2.4-3.05 per 100,000 population.

In a study by Eveson and Cawson² reported in 10.2% cases submandibular gland was involved by PA and mainly the left side. Although careful clinical examination and history helps in making diagnosis of pleomorphic adenoma but CT scans, MRI and FNAC may confirm the diagnosis and size of the mass. CT scan requires shorter imaging time and provides excellent spatial resolution, even though it has limited soft tissue characterisation. MRI provides excellent soft tissue characterisation and has no exposure to irradiation, however, it is costly, more time consuming and is more likely to require sedation in young children. Both modalities are useful in distinguishing between solid and cystic masses and differentiating lymph nodes from salivary gland tumours.⁸ Fine needle aspiration (FNA) biopsy establishes the diagnosis with good accuracy when sufficient specimen is obtained and a skilled pathologist is available.^{8,10} The positive predictive value of FNA biopsy for PA was 99%.⁹

Ultrasonography is a well-tolerated method of evaluating salivary gland masses in children. The technique does not require sedation and does not expose the patient to irradiation. Boccato et al. (1998)¹⁰ advocated that ultrasound should be the first modality in the investigation of salivary gland masses in children, in view of differentiation between intra-glandular and extra-glandular lesions. Surgical excision is the most common diagnostic measure and is often therapeutic. Primary surgery determines the success or failure of the operation for PA of the submandibular gland, because every recurrence increases the risk for further recurrences.⁸. The first operation should involve extirpating the entire gland which could minimize the risk of recurrence. The recommended surgical approach is with a direct submandibular incision which provides easy access. The excision of the tumor should also be accompanied by the removal of the submandibular gland in toto. Complications include tumor recurrence, transient and permanent marginal mandibular nerve weakness, ranula formation, postoperative fluid collection, and cellulitis.¹¹ Untreated PA has a 2 to 25% risk of malignant change.⁸

In conclusion, PA is the most common tumor in the submandibular glands. Clinically, as in other glands PA submandibular gland grows slowly with high prediction for female. Complete surgical excision is the treatment of choice as soon as it is confirmed. Although rare, recurrence may occur so careful follow-up should be done.

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