

# Pleomorphic Adenoma of the Submandibular Gland: A Rare Occurrence

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## ABSTRACT

Pleomorphic adenoma is the most frequent benign tumor of the salivary gland. It is a slow-growing tumor and is characterized by varying amount of myxochondroid stroma, produced by the myoepithelial cells. About 90% of benign neoplasm of major salivary glands is associated with the parotid gland. The occurrence of submandibular gland pleomorphic adenoma is uncommon. Pleomorphic adenoma have low proliferative rate and have a good prognosis. Presented here is the case of a 35-year-old lady with a swelling below the right angle of the mandible.

**Keywords:** Pleomorphic adenoma, salivary gland neoplasm, sub-mandibular gland

Salivary gland tumors are rare and account for nearly 3% of head and neck tumors. About 90% of benign neoplasm of major salivary glands is associated with the parotid gland. Pleomorphic adenoma is the most common benign tumor of the salivary gland.<sup>1</sup> Pleomorphic adenoma is characterized by varying amount of myxochondroid stroma that is produced by the myoepithelial cells. Microscopic findings of necrosis, nuclear atypia, hyalinization, invasion of adjacent tissue and heightened abnormal mitotic activity are linked with an aggressive behavior or malignant transformation of pleomorphic adenoma. At times, histopathological confusion could occur due to extensive squamous differentiation, usually seen on fine-needle aspiration cytology (FNAC). Thus, at times, it could be misdiagnosed. Capsule infiltration, though not associated with malignant transformation, might play a role in pleomorphic adenoma recurrence.<sup>2</sup> Pleomorphic adenoma have low proliferative rate and have a good prognosis.<sup>3</sup>

## CASE REPORT

A 35-year-old lady presented to the outpatient department (OPD) with a swelling below the right angle of the mandible (Fig. 1 a and b).

The swelling was present since 2-3 years which was slowly growing in size. The swelling was nontender and mobile and measured 5 × 6 cm. There was no rise in temperature.

Patient was then planned for surgery after getting the basic preoperative investigations done which were: Hemoglobin (Hb) - 12.4 g/dL, total leukocyte count (TC) - 9,800 cells/mm<sup>3</sup>, differential count (DC) - N<sub>55</sub>L<sub>38</sub>E<sub>6</sub>M<sub>1</sub>, erythrocyte sedimentation rate (ESR) - 18 mm/hr, bleeding time (BT) - 2 minutes 15 seconds, clotting time (CT) - 3 minutes 35 seconds, blood group - B-ve, ICTC - negative, random blood sugar (RBS) - 104.5 mg/dL, urine - within normal limit. The surgery was done under general anesthesia (Fig. 2).



**Figure 1 a and b.** Swelling below the right angle of the mandible.

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The gland was excised *in toto* (Fig. 3), hemostasis was checked for and achieved. The patient tolerated the procedure well.

The excised gland was sent for histopathological examination (Fig. 4). The microscopic picture coincided



Figure 2. Intraoperative image.



Figure 3. Excised gland.



Figure 4. Cut section of the gland.

with the diagnosis of pleomorphic adenoma (Fig. 5). The microscopic picture showed proliferation of both epithelial and stromal elements.

The epithelial proliferation is in the form of acini, tubercles, trabeculae. The stromal component is of chondromyxoid; at places stroma were seen having cartilaginous tissue.

Patient was put on broad-spectrum antibiotic postoperatively for a week and discharged on the 5th postoperative day. On the 10th postoperative day, the patient was called for follow-up and subcuticular suture removal; wound was healthy (Fig. 6).

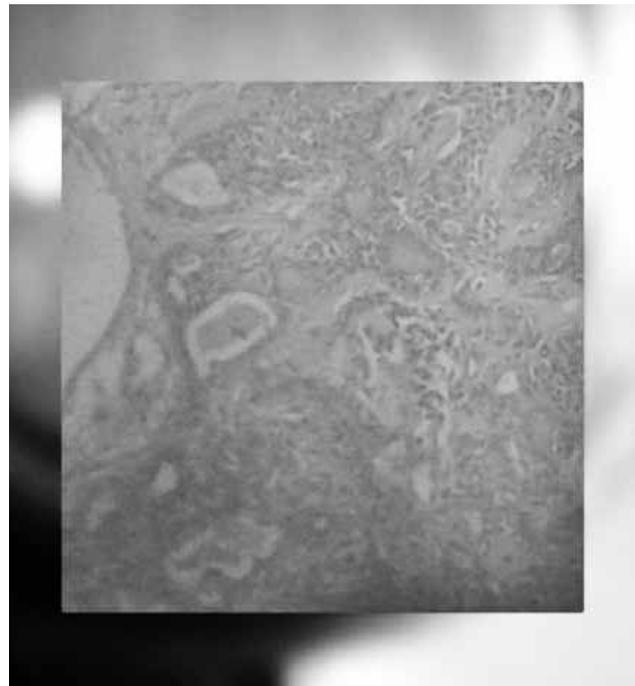


Figure 5. Microscopic picture pointed to diagnosis of pleomorphic adenoma.



Figure 6. Healthy wound on 10th day postoperatively.

## DISCUSSION

Cases of submandibular gland pleomorphic adenoma are uncommon, though parotid gland cases are often encountered.<sup>1</sup> Pleomorphic adenoma is the commonest benign tumor of the salivary glands<sup>4</sup> and accounts for 90% of all salivary gland tumors.<sup>1</sup>

The submandibular gland represents the second most common site of pleomorphic adenoma after the parotid gland.<sup>1</sup>

Pleomorphic adenoma, an epithelial tumor of complex morphology, has epithelial and myoepithelial elements intermingled with mucoid, myxoid or chondroid tissue arranged in varied patterns and embedded in a mucopolysaccharide stroma.<sup>1</sup>

The differential diagnosis includes basal cell adenoma, adenocarcinoma, mucoepidermoid carcinoma and lymphoma.

Investigations like magnetic resonance imaging (MRI) and computed tomography (CT) are gold standard, while adjunctive procedures such as ultrasound-guided needle aspiration and FNAC may not assist with confirmation of diagnosis.

A direct submandibular incision is generally recommended, which gives easy access. The excision should be always *in toto*. Incomplete removal would result in recurrence. At times, the benign pleomorphic adenoma could transform into a malignant one (carcinoma ex-pleomorphic adenoma), with 25% of untreated pleomorphic adenomas estimated to undergo

malignant transformation;<sup>5</sup> hence, early definitive treatment is needed.

## CONCLUSION

Pleomorphic adenoma is the most common benign neoplasm of the salivary gland and more commonly seen in parotid gland. It is uncommonly seen in submandibular gland. Surgical excision *in toto* is the treatment of choice. If left untreated, it could cause recurrence and long-standing pleomorphic adenoma could become malignant.

## REFERENCES

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### Brief Cognitive Therapy Promising for Chronic Pain

A brief cognitive behavioral therapy (CBT) program showed promising results in treating chronic pain among Veteran Affairs (VA) patients, revealed a clinical demonstration project.

By mid-treatment, patients with chronic pain had significant improvements in pain interference and pain self-efficacy, reported researchers at the American Academy of Pain Medicine annual meeting. The program included six 30-minute, one-on-one sessions aiming at decreasing functional limitations among patients with chronic musculoskeletal pain. After the third session, a composite measure of pain intensity and functional limitations showed statistically significant improvements, with pain-related self-efficacy outcomes showing a similar pattern.

### ACR Guideline on Reproductive Health in Rheumatic Diseases

The American College of Rheumatology (ACR) has issued guidelines for the management of reproductive health in patients with rheumatic and musculoskeletal diseases (RMD). The guidelines address concerns such as contraception, medication use during pregnancy and assisted reproductive technology. Special considerations have also been addressed for women with systemic lupus erythematosus (SLE) or those positive for antiphospholipid (aPL) antibodies. The guidelines were published online in *Arthritis & Rheumatology* and *Arthritis Care & Research*.