

# A case report of a large pleomorphic adenoma of the parotid gland in a geriatric patient

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**Abstract-** Pleomorphic adenoma of salivary gland is rare in the age group of 80-89 years and extremely rare in age 90 years and above. We report a case of a 90 years old female who presented with slow growing mass on left parotid region for 6 years. The Parotid swelling is ovoid in shape, 10 cm x 7 cm in left parotid region, cystic anteriorly and firm posteriorly and fixed to left sternocleidomastoid muscle. Fine needle aspiration cytology study showed scattered cyst macrophages and a few lymphocytes in a proteinaceous background, feature suggestive of benign cystic lesion of parotid gland. Contrast enhanced CT scan of neck showed large thick wall complex cystic lesion measuring 7cm x 4.9 cm x 6.3 cm (APxRLxSI) of left parotid gland with enhancing internal septation infiltration into left sternocleidomastoid muscle, suspecting neoplastic lesion. Superficial parotidectomy under general anesthesia was done with preservation of facial nerve and its branches. Retrograde dissection was done due to large size of tumor and suspected infiltration to sternocleidomastoid on CECT Neck. Specimen was sent for histopathological examination which showed pleomorphic adenoma-cellular variant with clear surgical margins.

**Index Terms:** Pleomorphic adenoma, Parotid swelling.

## INTRODUCTION

Parotid gland tumor represent 2-3% of head and neck tumors and 0.6% of all tumors in the body<sup>[1]</sup>. Pleomorphic adenoma is by far the most common salivary gland tumor<sup>[2]</sup>. It constitute approximately 70-80% of benign parotid gland tumor. Approximately 90% of parotid tumor occur in superficial lobe. The remaining 10% occur in the deep lobe<sup>[1]</sup>.

Pleomorphic adenoma of parotid gland occurs in patient of age group with highest incidence reported in 4<sup>th</sup> to 5<sup>th</sup> decade<sup>[2]</sup>. The tumor has a female predilection between 30 to 50 years of age<sup>[3]</sup>. In old age, it occurs more frequently in males than females<sup>[1]</sup>.

parotid pleomorphic adenomas usually present as slow growing, painless tumors. Facial nerve palsy is rarely seen in benign cases<sup>[2]</sup>. The incidence of malignant transformation in adenomas ranges from 1.9% to 23.9%. The risk increases in tumors with long standing evolution, recurrence, advance age of patient and location in a major salivary gland. The risk of malignant transformation increases from 1.6% in tumor with less than 5 years and to 9.5% in those for more than 15 years<sup>[4]</sup>.

Total parotidectomy is done if tumor involved the deep lobe. Superficial parotidectomy with facial nerve preservation is done for superficial lobe involvement<sup>[3]</sup>. Recurrence is reported in 0.3% of patient. Enucleation has high recurrence rate of upto 45%<sup>[5]</sup>. Therefore, surgical intervention remains the mainstay of treatment in cases of pleomorphic adenoma.

Here, we report this case for rarity of tumor, suspected malignant transformation which was later refuted with histopathological examination and perioperative challenges faced in geriatric population (above 90 years).

## CASE REPORT



Fig 1. Left parotid swelling in 90 years female



Fig 2. CECT Neck- Coronal sections

A 90-year-old female patient reported to ENT department, JNIMS with a chief complaint of gradually progressive swelling on left parotid region for last 6 years. The patient had a history of mishandling of the swelling by a local quack. On examination there was an ovoid swelling which is around 10cm X 7cm in the parotid region. The swelling was cystic anteriorly and firm posteriorly. It was not compressible with no refilling and there was no bruit. The swelling was fixed to sternocleidomastoid muscle.

FNAC showed scattered cyst macrophages and a few lymphocytes in a proteinaceous background, feature suggestive of benign cystic lesion of left parotid gland. CECT scan neck showed large thick wall complex cystic lesion measuring around 7.0 x 4.9 x 6.3 cms (AP x RL x SI) of left parotid gland with enhancing internal septations infiltrating into left sternocleidomastoid muscle suspecting neoplastic lesion. Counselling was done for undergoing superficial parotidectomy under general anaesthesia. Karnofsky Performance Scale for the patient was taken and it was satisfactory (90%). Charlson Comorbidity Index was 4. Informed written consent was taken and Patient underwent left (retrograde) Superficial Parotidectomy under General Anaesthesia using operating microscope for better identification of facial nerve and its branches.

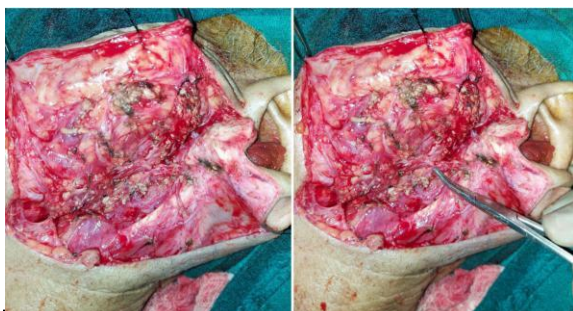


Fig 3. Superficial parotidectomy. Hemostat forcep showing Facial nerve.



Fig 4. Excised tumor of left parotid gland.

The tumor was completely excised with clear margins. Patient recovered uneventfully. Specimen sent for HPE showed pleomorphic adenoma-cellular variant with clear surgical margins.



Fig 5. Postoperative wound

## DISCUSSION

In our case, 90 years old female with pleomorphic adenoma of left parotid gland underwent retrograde superficial parotidectomy under general anesthesia successfully after a pre-operative work-up with Karnofsky performance scale (KPS) and Charlson co-morbidity index (CCI). Our patient has KPS of 90% and CCI of 4 preoperatively.

Wijnanda et al. reported that CCI of 5 or more had higher 3 months, 1 year and 5 year mortality than those with CCI of 0<sup>[6]</sup>. The KPS serve as an effective proxy score for a patient's health and functional status. It also serve as a significant predictor of hospitalisation, survival time, community residence and institutionalisation. Karnofsky Scale and Charlson Comorbidity Index helps in deciding whether a person may undergo for surgery<sup>[7]</sup>. surgery in elderly patient may lead to decline in their cognition<sup>[8]</sup>.

When left untreated, up to 5% may become malignant (carcinoma ex pleomorphic adenomas)<sup>[2]</sup>. Pleomorphic adenoma of parotid gland is a slow growing tumor, usually demarcated and mobile. Our 90 year female patient had a history of slow growing mass in left parotid region for 6 years with fixity to the sternocleidomastoid muscle. CECT neck also suggested complex cystic lesions with septations infiltrating to sternocleidomastoid muscle which arose the suspicion for malignant transformation however HPE show no such changes. Imaging with ultrasonography, MRI and CT scan may be used depending on its site and size of tumor<sup>[9]</sup>.

Fine needle aspiration cytology (FNAC) with or without Ultrasound-guided is often used in investigation and cytological findings in pleomorphic adenomas which shows typically of mixed epithelial cells and mesenchymal elements<sup>[9]</sup>. In our patient, FNAC showed benign cystic lesion of left parotid gland. The patient underwent retrograde superficial parotidectomy under general anesthesia successfully with no intra-operative or post-operative complications. The marginal mandibular nerve was identified early during the surgery and traced backwards to the subsequent tributaries and main trunk. Due to large size of the tumor, this technique overcame the difficulty required for tumor mobilization, necessary for facial nerve trunk identification in standard antegrade technique.

In a systematic review, temporary facial nerve paralysis was noted in 18.2% and permanent facial nerve paralysis was noted in 0.9% of patients treated with retrograde approach<sup>[10]</sup>. However, in our patient, there was no facial nerve palsy after the surgery.

The excised specimen which was sent for histopathological examination showed pleomorphic adenoma cellular variant with clear surgical margins. There was no malignant transformation as suspected preoperatively.

## CONCLUSION

Pleomorphic adenoma of parotid in above 90 years old patients are rarely reported. Surgery in geriatric population have inherent risk due to poor cardiac and pulmonary reserves. Postoperative cognitive impairment is reported in the elderly patients after surgery under general anaesthesia. A proper preoperative work up with Charlson comorbidity index and Karnofsky scale helps in guiding the treating team with regards to post operative comorbidity in geriatric patients requiring surgery.

Superficial parotidectomy remains the main conventional treatment of pleomorphic adenoma while preserving the facial nerve unlike enucleation which has more chances of recurrence. Retrograde technique of superficial parotidectomy is useful technique in patients with obesity, large parotid tumors and tumors adhered to sternocleidomastoid muscles. Operating microscope is useful tool in identification of the facial nerve and its branches.

The knowledge of the potential risks and complications associated with superficial parotidectomy are relevant for preoperative planning, counselling to patients and to achieve better long-term outcomes.

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