

**Research Article**

**Parotid gland tumors: A seven year experience at the tertiary care hospital**

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**Abstract**

**Aim and objective:** To study the demographic features of the patients suffering from the parotid tumors and the outcome of the parotid surgery. **Study design:** An observational descriptive study.

**Place and duration of study:** Department of General Surgery, K.I.M.S, Andhra Pradesh, from Jan 2006 to November 2012.

**Material and methods:** The study has been conducted at tertiary care teaching hospital in Andhra Pradesh from 2006 to 2012. The patients of both gender and all age groups presented with parotid swellings were included in the study. The subjects were interviewed for history and then thorough clinical examination was carried out. They were subjected for routine and specialized investigations like FNAC, USG of parotid region and CT scan of parotid and neck. The patients were subjected to parotid surgery.

**Results:** Out of 21 cases 10 were male and 11 female. Age range was from 11 to 65 year. All patients presented with unilateral parotid swelling. Fourteen cases (66.66 %) cases had pleomorphic adenoma and four cases had (19.04 %) of malignancy tumor. Two cases had transient facial palsy whereas there were one of sialocele, parotid fistula and postoperative hemorrhage each.

**Conclusion:** It is concluded that the parotid surgery can be safely performed in general surgery units with acceptable and comparable results.

**Keywords:** parotid, tumor, pleomorphic adenoma, parotidectomy, facial nerve

**1. Introduction**

Parotid gland is the most common site of salivary gland tumors amongst the all major and minor salivary glands.<sup>1,2</sup> Eighty percent of tumors occurring in the parotid gland are benign, the commonest benign tumor is the pleomorphic adenoma or mixed parotid tumor<sup>1,2,3</sup>. The annual incidence of these tumors is 1 in 100000. The next common benign tumor is the Warthin's tumor.<sup>2,4</sup>

To many surgeons the parotid surgery is not less than a challenge due to its peculiar anatomy as the facial nerve and its branches traverses through the gland parenchyma which divides the gland into superficial and the deep lobe. The procedure of enucleation or wide excisions of even benign tumors are associated with local recurrence, so the minimum accepted procedure is the superficial or lateral parotidectomy. The surgeon dealing with the parotid gland need to master the art and skill of the identification of trunk and the individual branches of facial nerve to avoid the postoperative facial nerve palsy.

**Aim and objective:** The aim and objective of the present series is to study the demographic features of the patients suffering from the parotid tumors and the complications of the parotidectomy.

**2. Material and methods**

The study has been conducted at tertiary care teaching hospital in the Nalgonda district of Andhra Pradesh over the period of seven years from 2006 to 2012. It is a prospective, observational and descriptive study performed after obtaining informed consent of the study subjects. The patients of both gender and all age groups who presented with parotid swellings were included in the study. Patients who did not undergo surgeries were excluded from the study. The subjects were interviewed for disease history and then thorough clinical examination was carried out. Patients were subjected for routine and specialized investigations like FNAC, USG of parotid region. The CT scan of parotid and neck was done in case of suspected malignancy and deep lobe involvement. The patients were subjected to parotidectomy after written informed consent regarding risk of surgery and likely complications. They were counseled about facial nerve injury and its sequelae. These patients were followed up to six months after discharge. The range, percentage and mean are the statistical methods used to analysis of the findings and observations.

**3. Results**

Total 21 cases constituted the present study, of which 10 male and 11 females. Age of subjects was in range of 11 year to 65 year (Table 1).

**Tables 1: Age group wise distribution of subjects**

Age group ( year)	Number of cases (%)
1-20	05 (23.80)
21-40	11 (52.38)
41-60	03 (14.28)
> 60	02 (9.52)

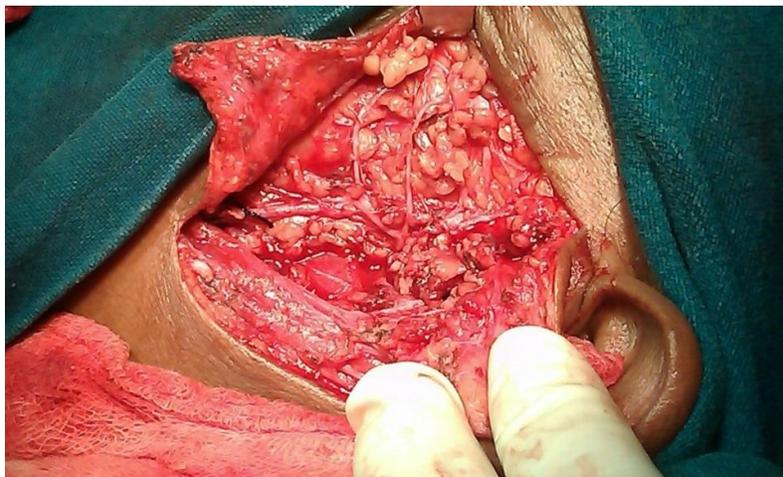
The youngest and oldest patients in the series were 11 and 65 year old. Out of 21 cases 16(76.19 %) cases were below forty years. All patients presented with unilateral parotid swelling without facial nerve involvement. Fourteen cases (66.66 %) cases had pleomorphic adenoma. All benign tumors collectively constitute more than 80% of cases in the given study (table 2).

**Table 2: Various types of tumors**

Type of parotid tumor	Number of cases (%)
Pleomorphic adenoma	14 (66.66)
Warthin's tumor	01 (4.76)
Primary carcinoma of parotid	03 (14.28)
Secondary carcinoma of parotid	01 (4.76)
Lympho-epithelial lesion	02 (9.52)

There were total four cases (19.04 %) of malignancy in the series. The operation of superficial parotidectomy (figure 1) was performed in total 17 cases (80.96 %) which make it the most common procedure.

**Figure 1 reveals the facial nerve and its branches after superficial parotidectomy.**



**Table 3: Operative procedures performed for parotid tumors**

Type of operative procedure done	Number of cases (%)
Superficial parotidectomy	17 (80.95)
Total conservative parotidectomy( TCP)	03 (14.28)
TCP +Modified radical neck dissection	01 (4.76)

Three (14.28 %) patients had undergone total conservative parotidectomy (TCP) whereas one case had modified radical neck dissection in addition to TCP for the lymph node metastasis.

Out of 21 operated cases, 4 cases (19.04 %) had suffered from postoperative complications. Two patients (9.52 %) developed transient facial nerve palsy. Both the cases recovered completely, one after the period of six weeks and other after period of seven days with expectant therapy. The present series revealed sialocoele(figure 2), minor salivary gland fistula and reactionary hemorrhage in one case each.

**Figure 2 reveals the postoperative sialocoele.**



#### 4. Discussion

The present study was conducted at the tertiary care teaching hospital constituted total 21 cases out of which 11 were females and 10 were males which is in accordance with other series.<sup>1,2,3,4,5,6</sup> As per the reviewed English literature there is no clear predilection to any gender.<sup>1,2,3,4</sup> This series includes cases from age of 11 year to 65 year which is again comparable to other series.<sup>2,3,4,5,6</sup> The youngest patient of series had low grade mucoepidermoid carcinoma. This series again highlights that the most common benign tumor of the parotid gland is the pleomorphic adenoma i.e. in 66.66 % of cases. Pleomorphic adenoma mostly occurred in the superficial lobe.<sup>3,5,6,7,8</sup> The cases of parotid carcinoma accounted for 14.76 % of cases.

More than 80% of cases had undergone the superficial parotidectomy which makes it the most common surgical procedure performed in the present study.<sup>5,6,7,8</sup> The total parotidectomy was in 3 cases (14.76 %). The present series reveals the good outcome of parotid surgery which is comparable with the results published in English literature.<sup>1,2,5,6,7</sup> The complications noted are transient facial nerve palsy in two cases (9.52%). The patient who was diagnosed as parotid carcinoma with lymph node metastases had complete facial nerve palsy which recovered completely after 6 weeks of duration. The other case having low grade mucoepidermoid carcinoma developed deviation of angle of mouth. The facial palsy also recovered completely after 1 week. Sialocele, minor salivary gland fistula and postoperative reactionary hemorrhage occurred in one patient each and it was also managed with the conservative treatment successfully.

Good acceptable outcome of parotid surgery can be achieved with the sound knowledge of surgical anatomy of parotid gland and the meticulous and patient dissection of all branches of facial nerve. The author prefers to deepen the incision on proximal and distal aspect of the stylomastoid foramen up to level of posterior belly of digastric muscle. The gland is dissected and retracted antero-medially to make nerve prominent. Then dissection is done to identify the main trunk of the nerve as it emerges out through the stylomastoid foramina. It is observed that this technique is very helpful to identify the facial nerve. In the present series only two cases had facial nerve palsy due to overstretching of the nerve fibers.

#### 5. Conclusion

Even though it is the small series, the overall observed characteristics of the parotid tumors as well as outcome of parotid surgery is quite acceptable and comparable.

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