

# Comparing Analyses of Parotid Mixed Tumors Surgical Methods Considering the Tumor Size and Localization

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## **Abstract**

According to received results, it could be concluded, bigger is the tumor size, higher is the incidence of recurrence after the enucleation and it ranges in 29,2%-83,3%, averagely - 56,3%. This indicator after the parotid gland subtotal resection with the sparing of facial nerve is - 3,4%-12,5%, averagely - 7,9%. Analogous tendency is in this group too, particularly, bigger is the tumor size, higher is the incidence of recurrence. Considering the tumor localization and type of conducted surgery, the incidence of recurrence after the enucleation ranges in 33.3%-66.7%, averagely - 50%. The highest incidence of recurrence is noted in case of tumor corpus localization (6,7%). The incidence of recurrence after the parotid gland subtotal resection with facial nerve sparing ranges in 4.8%-9.4%, averagely - 7,1% and the highest incidence of recurrence is found in case of tumor lower pole localization (9,4%). In the group of patients with tumor sizes less than 3 cm and lower pole localization, who were done the parotid gland marginal resection, no cases of recurrence was registered. In such cases this volume of surgery could be regarded as the best method.

**Keywords:** *mixed tumor, enucleation, subtotal resection*

The aim of the study was to perform the comparing analyses of parotid gland mixed tumors surgical methods, considering the tumor size and localization. Retrospective study was performed in 123 patients with parotid gland mixed tumors, conducted surgeries at Head and Neck Surgery Department in 1985-1999. Females - 74 (60,2%), male - 49 (39,8%). The parotid gland was divided in 4 anatomical parts: 1. upper pole, 2. corpus, 3. lower pole, 4. pharyngeal process. According to tumor size, cases were divided in following groups: 0,5-1,0 cm, 1-3 cm, 3-5 cm, 5-10 cm.. The Table 1 shows the data on tumor size and its localization.

As indicated in the Table1, tumors with sizes 1-3 cm are the most frequent (68,3%). 0,5-1 cm tumors are very rare (4,1%). Parotid tumors most frequently are localized in corpus and lower pole (39,0% and 46,3% consequently).

From 123 patients, 0,5-1 cm tumors were noted in 5 (4,1%). 2 of them were done parotid gland marginal resection and the rest of the 3 - parotid gland subtotal resection with sparing of facial nerve. All of them were free of recurrence during 5 years.

PAROTID GLAND ANATOMICAL PARTS	TUMOR SIZE				TOTAL (%)
	0,5-1,0 cm	1-3 cm	3-5 cm	5-10 cm	
upper pole	-	10	1	-	11 (8.9%)
corpus	3	34	14	6	57 (46.3%)
lower pole	2	36	7	3	48 (39%)
pharyngeal process	-	1	-	-	1 (0.8%)
pharyngeal process and lower pole	-	1	-	1	2 (1.6%)
lower pole and corpus	-	2	-	1	3 (2.4%)
upper, lower pole and corpus	-	-	-	1	1 (0.8%)
Total (%)	5 (4.1%)	84 (68.3%)	22 (17.9%)	12 (9.8%)	123 (100%)

**Tab.1** *Correlation between parotid tumor size and localization.*

In case of 1-3 cm tumors (84 patients), enucleation was conducted in 24 (28,6%) and the recurrence was found in 7 cases (29,2%) after the 5-7 years of surgery. From the rest of the 60 patients, 56 underwent parotid gland subtotal resection with sparing of facial nerve and 4 - parotid gland marginal resection. From the mentioned 56 cases recurrence developed in 2 (3,4%) during the 5 years and no recurrence was found in 4 patients after the marginal resection.

In cases of 3-5 cm tumors (22 patients), enucleation was done in 6, parotid gland subtotal resection with sparing of facial nerve in - 15 and parotidectomy with sparing of facial nerve branches in - 1. The recurrence after the 5-10 years of enucleation was found in 5 patients (83,3%). As for subtotal resection group, the recurrence developed in 2 cases (12,5%).

In 12 patients with 5-10 cm tumors, enucleation was carried out in 4, and the parotid gland subtotal resection with facial nerve sparing in - 8 cases. After the 5-7 years of enucleation the recurrence developed in 3 patients (75,0%). 1 case of recurrence was noted after the 5 years of parotid gland subtotal resection (12,5%).

From 48 patients with tumor lower pole localization, 6 were done the marginal resection, 10 - tumor enucleation and 32 - parotid gland subtotal resection with sparing of facial nerve. No recurrence was found after the marginal resections, whereas it has developed after the 5-7 years of enucleation in 3 cases (33,3%)

and after the 5-10 years of parotid gland subtotal resection in 3 patients (9,4%).

In 11 cases of tumor upper pole localization, enucleation was conducted in 4 patients and the recurrence developed in 2 after the 5-7 years of surgery (50,0%). The rest of the 7 patients were done parotid gland subtotal resection with sparing of facial nerve and there was no recurrence found.

The tumor was localized in parotid gland corpus in 57 patients. In this group, the enucleation was conducted in 15 cases and the recurrence was noted in 10 after the 5-10 years of operation (66,7%). Parotid gland subtotal resection with sparing of facial nerve was done in 42 patients, recurrence developed in 2 of them (4,8%) after the 5-10 years of surgery.

Enucleation was conducted in 2 cases of tumor lower pole and corpus localization, and all of them developed the recurrence after 5-10 years (66,7%). 1 patient with the same localization, underwent the parotid gland subtotal resection with sparing of facial nerve and he was free of recurrence.

1 patient had tumor localization in upper and lower poles and corpus. Patient was conducted parotid gland subtotal resection with sparing of the facial nerve and he was free of recurrence in follow-up period.

Also recurrence free was the patient with pharyngeal process localization who was done parotidectomy with facial nerve sparing.

It could be concluded, that according to tumor size and type of conducted surgery, bigger is the tumor size, higher is the incidence of recurrence after the enucleation and it ranges in 29,2%-83,3%, averagely - 56,3%.

This indicator after the parotid gland subtotal resection with the sparing of facial nerve is - 3,4%-12,5%, averagely - 7,9%. Analogous tendency is in this group too, particularly, bigger is the tumor size, higher is the incidence of recurrence.

Considering the tumor localization and type of conducted surgery, the incidence of recurrence after the enucleation ranges in 33.3%-66.7%, averagely - 50%. The highest incidence of recurrence is noted in case of tumor corpus localization (6,7%). The incidence of recurrence after the parotid gland subtotal resection with facial nerve sparing ranges in 4.8%-9.4%, averagely - 7,1% and the highest incidence of recurrence is found in case of tumor lower pole localization (9,4%).

In the group of patients with tumor sizes less than 3 cm and lower pole localization, who were done the parotid gland marginal resection, no cases of recurrence was registered. In such cases this volume of surgery could be regarded as the best method.

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## **Сравнительная оценка эффективности методов хирургического лечения смешанных опухолей околоушной слюнной железы с учетом их размеров и топографического положения**

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### **Р Е З Ю М Е**

Целью исследования являлась оценка эффективности хирургических методов лечения смешанных опухолей околоушной слюнной железы в зависимости от ее размера и топографического положения. Установлено, что рецидивов варьирует от 29.2% до 83.3% в зависимости от размеров опухоли после ее энуклеации, составляя в среднем 56.3%, а после субтотальной резекции околоушной слюнной железы частота рецидивов варьирует от 3.4% до 12.5%, составляя в среднем 7.9%. Выявлено также, что рецидивируют те опухоли которые расположены в нижнем полюсе слюнной железы.

**Ключевые слова:** смешанная опухоль, энуклеация, субтотальная резекция