Short Communication

Complications and recurrence of parotid pleomorphic adenoma after partial parotidectomy at Alzahra hospital

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Abstract

BACKGROUND: The most common neoplasm of the salivary glands is pleomorphic adenoma and the most common complications of its surgical removal are facial nerve dysfunction (temporary or permanent) and auriculotemporal syndrome (Frey’s syndrome). One of the surgical techniques in pleomorphic adenoma is partial parotidectomy. The whole excised tumor is surrounded by a safety margin of parotid tissue. Several surgical techniques are used for this operation. In the analytical studies published for partial parotidectomy, we searched for the complication rates of this operation.

METHODS: In a cross-sectional study, 59 patients with pleomorphic adenoma who underwent partial parotidectomy from 1994 to 2000 were selected and their clinical examinations and pathological files were evaluated at the Alzahra hospital which is affiliated to Isfahan University of Medical Sciences.

RESULTS: From the fifty nine patients, who were studied, 44.06% were male and 55.94% were female. The mean age at the time of the onset of symptoms was 37.18. One of the patients had a history of tumor recurrence. Four patients had temporary facial nerve paresis immediately after the surgery. One patient (1.69%) had a permanent facial nerve paralysis in one of the facial nerve subdivisions. Two patients (3.38%) had Frey’s syndrome. In 1 case (1.69%) there was a history of bleeding after the surgery. Two patients (3.38%) had wound infection.

CONCLUSIONS: In comparison with the superficial parotidectomy technique, the partial parotidectomy method indicates more satisfying results in regards to recurrence and complications.

KEY WORDS: Frey’s syndrome, partial parotidectomy, complications, pleomorphic adenoma, mixed tumor, auriculotemporal syndrome.

Salivary gland tumors have a relatively low prevalence and involve only 3-4% of the head and neck neoplasms. Salivary gland tumors are recognized both diagnostically and therapeutically. Over half of them are benign and 80% are found in the parotid gland. Pleomorphic adenoma constituted 84% of benign tumors and 45% of all salivary gland neoplasms. The most common manifestation of this tumor is a painless mass in the salivary gland especially the parotid gland.

This tumor originates from the epithelial and myoepithelial cells of the salivary ducts and stroma. Its prevalence is in the 5th decade of life and it is more common in women. This tumor originates from the superficial parotid lobe in 90% of patients. Although fine-needle aspiration, CT scan or MRI are the first steps of its diagnosis, the definitive diagnosis is obtained by excisional biopsy. The current treatment of the tumor has been the superficial...
parotidectomy with the facial nerve preserva-
tion 1,4. Pleomorphic adenoma recurs post-
operatively in 1% to 5% of the cases 1,4 proba-
dy due to the tumor capsule rupture during
the operation or the existence of pseudopods 1.
To lower the risk of the complications, the re-
searchers have offered some approaches for
the removal of the tumor. One suggested
method is capsule enucleation which prevents
about 80% recurrences that are in relation with
the pseudopods 4. The risk of malignant trans-
formation in pleomorphic adenoma is 1.5%
within the first 5 years of diagnosis, but it in-
creases to 10% if observed for more than 15
years 5. The most important complication of
parotidectomy is the facial nerve paralysis 1,6.

Recently, partial parotidectomy (excision of
the tumor and surrounded normal tissue) has
been introduced as a probable substitution and
even a newer current surgical method for the
prevention of facial nerve injury and postop-
erative recurrence 7. This method decreases the
manipulation of parotid gland and the rate of
the sweating when eating (Frey’s syndrome).
Partial parotidectomy is the best option for the
primary treatment of pleomorphic adenoma.
The authors conducted a research to analyze
the recurrence and complications of partial pa-
rotidectomy and to assess such a possibility.

Methods
In a cross-sectional study 59 patients with
pleomorphic adenoma who underwent partial
parotidectomy between 1994 to 2000 were se-
lected and their files underwent clinical and
pathological examinations at the Alzahra hos-
pital, affiliated to Isfahan University of Medi-
cal Sciences. At the end, the files of 59 patients
were studied and all of them were inter-
viewed. The existence of a mass in the parotid
gland was deemed as recurrence. Facial nerve
paralysis, Frey’s syndrome and operation site
infection were recorded by direct questioning.
Postoperative hematoma history was also re-
corded from the files and data were then ana-
lyzed.

Results
From 59 patients in this study, 55.9% were fe-
male and 44.1% were male. The average of
males age was 36.7 ± 9.97 and the mean age
for the females was 40.39 ± 11.55. The average
time of the patients’ follow-up was 92.7 ± 20.2
months (from 20 months to 12 years) and the
patients average hospitalization time was 3.2
days (2-5 days). One patient had recurrence
(1.69%). The interval from operation to diagno-
sis of recurrence was 8 months (6-12 months).
In the files of four patients, facial nerve paresis
was recorded. In the examination of 1 patient,
permanent facial nerve paralysis was ob-
served. We found the signs of the Frey’s syn-
drome in 2 patients. In 1 case (1.69 %) postop-
erative hemorrhage occurred which was con-
trolled by emergent surgery and 2 patients
(3.38%) had wound infection.

Discussion
In this research the frequency of pleomorphic
adenoma was higher in women while in previ-
ous researches 1 male to female ratio was
shown to be 1.3:1. The disease occurrence av-
erage age was in the 4th decade of patient’s
lives. In previous researches the 5th decade has
been considered as the most frequent period of
the tumor occurrence 1. The mean age differ-
ence between the male and female patients at
the time of operation was studied by the t test
and no significant difference was shown. The
average time of tumor signs existence was
about 20 months which could be due to the
carelessness of the patient and his/her family,
inappropriate diagnosis or incorrect treatment.
In this research there was 1 case of tumor re-
currence (1.69%) 8 months after the first opera-
tion. In other researches, the average number
of tumor recurrence after partial parotidecto-
y was reported between 0 to 2.85%. 6,8. In a
study by Lea, the mean interval between op-
eration and recurrence was 5 years 6. More
samples are required for more investigation on
the effects of the sex on the recurrence.

The prevalence of Frey’s syndrome was 8% 6
in one research and at 1% 7 in another study. In
this research 2 patients (3.38%) mentioned the
signs of this syndrome. Frey’s syndrome occurrence with a low prevalence is perhaps related to the operation method. In partial parotidectomy the dermal flap of the tumor is raised up to its anterior surface and therefore, less nerve regeneration occurs. In one case postoperative hemorrhage led to urgent surgery. Temporary paresis of the facial nerve branches occurred in 3 patients (5.08%). One patient (1.69%) had severe permanent paralysis because of less operative field and less manipulation. In a study by Mehle et al, immediate post-operative facial nerve dysfunction was frequently encountered (46%) but persistent dysfunction was uncommon (4%).

Conclusions
As compared with similar results in superficial parotidectomy, partial parotidectomy displays better results regarding tumor recurrence and postoperative complications.

References