Surgical intervention to benign parotid gland tumors: A clinical study

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Clinical presentations, various diagnastic methods, anatomy and course of facial nerve in the diagnosis and treatment of benign paotid gland tumors is review in this clinical study.

Clinical aspects, diagnostic and treatment methods, and our results on 44 cases of our series are discussed.

Histopathology, clinical aspects, and surgical treatments of benign parotid gland tumors has been presented and compared with literature and superficial parotidectomy is pointed out to be a better method of treatment when compared to the other surgical techniques.

In conclusion a succesfull surgical treatment the surgeon must know surgical anatomy histopathology, clinical aspects, and the surgical technique very well. [Turk J Med Res 1992; 10(6):329-332]

Key **Word:** Parotid neoplasms

Surgical treatment of benign parotid gland tumors are important because it is very common and it is neighbor to facial nerve.

In our clinic, we diagnosed ant treated 44 benign parotid gland tumors between years 1975-1989. We discussed them according to methods of treatment, operative ersults, and postoperative complications.

Succesfull treatment of benign parotid gland tumors begins by knowing well its surgical anatomy and pathology (1).

The biggest salivary gland in human is parotid gland. Its weight is approximately 25 to 30 grams. The gland cam be divided into superficial and retromandibular or deep lobules (2,3).

The major problem for a surgeon in parotid surgery is the dissection and protection of the facial nerve and removal of the gland totally (1).

Diagnostic procedures are as follows:

MAGNETIC RESONANCE (MR): It brought a great definitiveness in the evaluation of the parotid gland (4).

Geliş Tarihi: 20.7.1991 **Kabul Tarihi:** 20.10.1992

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CONTRAST COMPUTERIZED TOMOGRAPHY: It may show vascular malformations and relation between tumor and main vessels (5).

COMPUTERIZED TOMOGRAPHY: Little changes in soft tissue can be demonstrated with it. Most of the benign lesions are well bordered and capsulated. Computarized tomographic examination shows whether the tumor is in the parotid gland or not. Irregular, eroded bone indicates malinancy (6).

THERMOGRAPHY: It is used on clinically palpable parotid tumor patients and gives 75 to 85% correct diagnosis in cancer patients (5).

NEEDLE BIOPSY: It is used for diagnosis of infection and spesific type of tumors of parotid gland (6).

One of the most usefull methods for diagnosis of parotid gland masses is magnetic resonance (MR). Computerized tomography and thermography can also be used for true diagnosis likewise. Needle biopsy can be done for preoperative histopathologic examinaton (5).

MATERIALS AND METHODS

Between 1976-1989, 68 patients were admitted and treated in our clinic because of parotid masses. Benign parotid gland tumor was diagnosed in 44 of 68 (64.7%). Seventeen of them were female and 27 were male. The average age was found to be 43.

Patients were admitted to our clinic in 2 months to 22 years after begining of their complaints. The tumors which were benign clinically, were not biopsied. The size, hardness, location, tenderness of the tumor and invasion to the skin were assessed by bimanual palpation. Also meatus acusticus externus and local lymph nodes were examined carefully.

The tumoral masses of the patients were from 1 to 8 cm in diameter. Twentyfive of the masses were below the ear lobe (56.8%) and 19 were infront of it (43.19%). Tumoral masses were located equally to both sides of the face. Only 1 case was bilateral.

Facial nerve functions were controlled pre and postoperatively by asking the patients to smile, whistle, and move their eyebrows (Figure 1,2,3,4).

RESULTS

Between 1976 and 1989, 44 benign parotid gland tumor patients were admitted to our clinic. Histopathological distribution is shown on Table 1.

The types of surgical interventions were as follows; superficial parotidectomy 29 (65.92%), tumoral mass extirpation 14 (31.8%) and total parotidectomy 1 (2.28%) (it was a recurrent mixed tumor).

During the operation we observed facial mimic muscles for facial nerve security. We used "lazy S" insicion in all cases. Centrifugal technique was used for facial nerve exposure. Fine haemostasis was made by bipolar cautery during the operation. Little aspirative suction drains were used after operation and were removed on the 3rd or 4th postoperative days.

As a postoperative complication, temporary facial nerve paresis occured in 2 cases. Both of them healed in 2 months. In 3 cases Frey's syndrom (6.81%), and in 2 cases haemathoma (4.54%) occured. Infection, wound seperation, detachment, bleeding, hypertrophic scar and keloid formation was not seen in our series.

In 4 of the patients which we operated recurrence occured between 2 to 13 years after and were admitted to our clinic again.

DISCUSSION

Parotid gland tumors comprise 80% off all salivary gland tumors, and 80% of the benign parotid gland tumors are in the superficial lobe and 20% in the deep lobel (1,7,8,9).

In this study 44 histopathologically confirmed benign parotid gland tumor (64,71% of all) cases have been investigated. The rate of benign tumors is between 63.2% and 80.0% in some previous repots (1.7).

The average age is 43 in our cases which was reported as 51 in literature (7).

While male to female ratio is 27:17 in the present study this distrubition is in favour of female sex in the literature (1,7).

Twenty of the patients were treated before their admission to us and 24 of them had no previous treatment. The interval between their admission to our hospital and begining of their complaints was 2 months to 22 years. In literature this interval was reported from 1 week to 62 years (7).

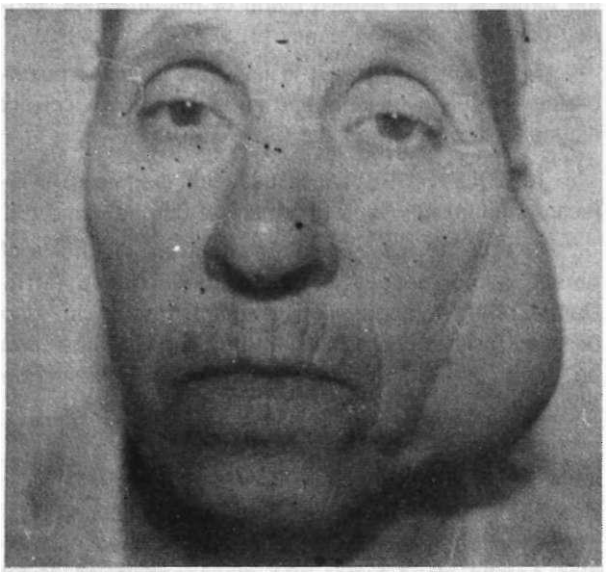

Figure 1. Anterior view of a patient with mixed parotid gland tumor.

Figure 2. Clinical examination of facial nerve functions in same patient.

Figure 3. Postoperative anterior view of mixed tumor patient.

Figure 4. Postoperative facial nerve examination in same patient.

Table 1. Histopathological distribution of our series

Histopathology	Number	%
Mixed	36	81.82
Lipoma	4	9.08
Warthin's tumor	2	4.55
Sialadenitis	2	4.55
Total	44	100.0

According to localization, expect 1, all of them were unilateral. Twentyone of them were on the right side, and 22 on left side. One was localized bilaterally. We couldn't find any knowledge about localization in literature (7).

In our series the size of the tumors were between 1 to 8 cm in diameter. In literature the sizes are declared to be between 2 to 40 cm for benign parotid gland tumors (7).

The histologic distribution of our series is shown in Table 1. According to this the most common histopathological type is mixed tumor (81.82%) which is similar in the literature (7,10,11,12). To day it is called as pleomorphic adenoma (1)

The second common seen tumor is Warthins tumor and it can be named papillary cystadenoma lymphomatosum (2-10%). In our series lipoma was the second most common tumor (9.08%) followed by Warthins tumor (4.55%) (13).

The most common surgical technique in our study was superficial parotidectomy (65.92%). We obsered 4 recurrences, 1 (3.8%) in superficial parotidectomy group and 3 (17.64%) in mass extirpation group. The recurrence time was between 2 to 13 years. This rate for recurrence is 2% to 8.7% for superficial parotidectomy and 6% to 57% for enucleation and mass extirpation. Our relapse rates fits to those in the literature (7,8).

In surgical treatment of benign parotid gland tumors, temporary nerve paralysis (26.6%), permanent facial nerve paralysis (5 to 13.6%), Frey's syndrome (14.4%), salivary fistulea (10%) has been reported as complications (9,11,14). In our patients we saw temporary facial nerve paralysis in 2 cases (4.54%), Frey's syndrome in 3 cases (6.81%) and haemathoma in 2 cases (4.54%). These findings are lower than those in literature. We think these low complication rates are related to our carefull work.

Selim parotis tümörlerine cerrahi yaklaşım: Klinik çalışma

Bu klinik çalışmada, selim parotis tümörlerinin teşhis ve tedavisinde, klinik prezatasyonlar, çeşitli tanı metodları, anatomi ve fasiyal sinirin seyri gözden geçirilmiştir.

Kırkdört vakalık serimizde, klinik özellikler, teşhis ve tedavi usulleri ve bizim sonuçlarımız tartışılmıştır.

Selim parotis tümörlerinin histopatoloji, klinik özellikler ve cerrahi tedavileri takdim edilmiş ve literatürle karşılaştırılmıştır. Diğer tekniklere göre süperfisiyel parotidektominin daha iyi bir tedavi yöntemi olduğuna işaret edilmiştir.

Sonuç olarak, başarılı bir cerrahi tedavi için cerrah, cerrahi anatomi, histopatoloji, klinik özellikler ve cerrahi tekniği iyi bilmelidir.
[Türk Tıp Araştırma 1992; 10(6):329-332]

Anahtar Kelime: Parotis tümörleri

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