

CASE REPORT

Facial paralysis due to an occult parotid abscess

Gizli parotis apsesine baęlı fasyal paralizi

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Facial paralysis associated with benign diseases of the parotid gland is very rare. It has been reported in approximately 16 cases of acute suppurative parotitis or parotid abscess. We presented a 45-year-old woman who developed facial paralysis secondary to an occult parotid abscess. Initially, there was no facial paralysis and the signs and symptoms were suggestive of acute parotitis, for which medical treatment was initiated. Three days later, left-sided facial palsy of HB (House-Brackmann) grade 5 developed. Ultrasonography revealed a pretragal, hypoechoic mass, 10x8 mm in size, causing inflammation in the surrounding tissue. Fine needle aspiration biopsy obtained from the mass revealed polymorphonuclear leukocytes and lymphocytes. No malignant cells were observed. The lesion was diagnosed as an occult parotid abscess. After a week, the mass disappeared and facial paralysis improved to HB grade 4. At the end of the first month, facial paralysis improved to HB grade 1. At three months, facial nerve function was nearly normal.

Key Words: Abscess/complications; facial paralysis/etiology; parotid diseases; parotitis/complications.

Parotis bezinin selim hastalıklarının fasyal paraliziye yol açması çok nadirdir. Literatürde akut süpüratif parotitis veya parotis apsesine baęlı fasyal paralizi gelişen yaklaşık 16 olgu bildirilmiştir. Bu yazıda gizli parotis apsesine baęlı fasyal paralizi gelişen 45 yaşında bir kadın hasta sunuldu. Başlangıçta hastada fasyal paralizi yoktu ve akut parotitisi düşündüren semptom ve bulgular için tıbbi tedavi düzenlendi. Üç gün sonra hastada sol taraflı, House-Brackmann (HB) derece 5 fasyal paralizi gelişmesi üzerine yapılan ultrasonografi incelemesinde, çevre dokularda enflamasyona yol açan, 10x8 mm büyüklüğünde, pretragal hipoekoik bir kitle saptandı. Lezyondan alınan ince iğne aspirasyon biyopsisinde polimorfonükleer lökosit ve lenfositler görüldü; malign hücreye rastlanmadı. Tanı gizli parotis apsesi şeklinde kondu. Bir hafta sonra kitle kayboldu ve fasyal paralizi HB derece 4'e geriledi. İlk ayın sonunda fasyal paralizi HB derece 1 idi. Üç aylık takip sonunda hastanın fasyal sinir fonksiyonu normale yakındı.

Anahtar Sözcükler: Apse/komplikasyon; fasyal paralizi/etiyoloji; parotis hastalığı; parotitis/komplikasyon.

Facial paralysis due to a parotid mass is most commonly seen in malignant diseases of the parotid gland. Facial paralysis secondary to acute suppurative parotitis and parotid abscesses is rare.

We presented a patient who developed facial paralysis secondary to an occult parotid abscess.

CASE REPORT

A 45-year-old female patient presented with complaints of left preauricular swelling and pain. Physical examination showed a diffuse, enlarged, and tender left parotid gland. There was no hyperemia of the skin. No lymph nodes were palpable in the neck.

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Fig. 1. Left-sided facial paralysis of House-Brackmann grade 5: (a) at rest, (b) with maximum effort (Printed with permission of the patient).

The orifice of the parotid duct on buccal mucosa was normal and there was no calculus in the duct. White blood cell predominance with neutrophilia ($12.2 \times 10^9/l$) was detected. Erythrocyte sedimentation rate was 100 mm/hr and blood chemistry was in normal range. A diagnosis of acute parotitis was made and the patient was prescribed intramuscular clindamycin 600 mg and oral naproxen sodium 550 mg, both twice daily, and then discharged.

The next day the patient presented to another clinic with a complaint of left facial weakness and was diagnosed as Bell's palsy. She then came back to our clinic 36 hours after the development of facial palsy. On physical examination, left facial paralysis of lower motor neuron type was observed (House-Brackmann grade 5) (Fig. 1a, b).^[1] Diffuse swelling, pain, and tenderness were relieved. Both tympanic membranes were normal. There were no pathologic findings except for left peripheral facial paralysis on neurologic examination. Ultrasonography revealed a pretragal, hypoechoic mass, 10x8 mm in size, causing inflammation in the surrounding tissue (Fig. 2a). Fine needle aspiration biopsy (FNAB) obtained from the mass revealed plenty of polymorphonuclear leukocytes and lymphocytes. No malignant cells were observed. There was no bacterial (including mycobacteria) growth in the culture. The lesion was diagnosed as occult parotid abscess. Medication was continued and follow-up for paralysis was scheduled. After a week, the mass disappeared, but facial paralysis persisted (Fig. 2b). Medication was stopped. In the second week, the patient noted that she could close her left eye with maximal effort. Facial paralysis improved to House-Brackmann grade 4. Therefore, surgical treatment was not indicated. At

the end of the first month, facial paralysis improved to House-Brackmann grade 1. At three months, facial nerve function was nearly normal (Fig. 3).

DISCUSSION

Acute suppurative parotitis is frequently seen in elderly, diabetic, and immunocompromised patients. The most common pathogens associated with acute bacterial parotitis are *Staphylococcus aureus* and anaerobic bacteria.^[2] In this case, we could not document any microorganisms in the culture, which might be due to performing FNAB two days after antibiotic therapy.

Facial nerve paralysis is extremely rare in non-malignant parotid lesions. In the literature, there have been 16 cases associated with suppurative parotitis and parotid abscess, and in eight of these cases a parotid abscess was described.^[3-9] The severity of facial nerve dysfunction is probably due to the virulence of microorganism, perineuritis, and

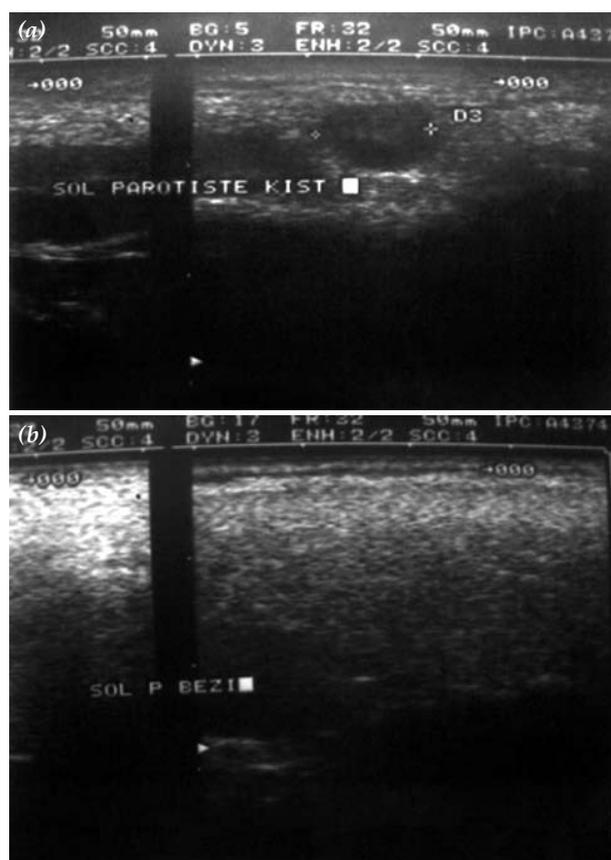


Fig. 2. (a) Ultrasonographic appearance of a 10x8-mm hypoechoic mass located in the pretragal area. (b) The mass disappeared after a week.



Fig. 3. Left facial nerve function was nearly normal after three months (Printed with permission of the patient).

nerve compression. In our case, although the location of the mass was away from the facial nerve trunk, all the peripheral branches of the nerve were affected. We consider this situation to be due to retrograde spreading of inflammation around the mass through the facial nerve trunk.

In suppurative parotitis complicated by facial paralysis, treatment should initially consist of hydration, sialagogue, oral hygiene, and broad spectrum antibiotherapy. Surgery is likely to be indicated in suspicion of malignancy, in the presence of unresponsive facial paralysis, and persistent mass despite improvement in inflammation.^[5,7]

In our case, medication was stopped one week after paralysis upon improvement in inflammation and disappearance of the mass. In the second week, facial nerve function improved. Disappearance of the mass and absence of malignant cells in FNAB were other important factors affecting our decision in favor of clinical follow-up.

The patient was initially misdiagnosed as Bell's palsy at another center and the parotid mass was not recognized. In such cases, Bell's palsy should also be considered in the differential diagnosis.

It is possible that, when we first examined the patient, we could have prevented the development

of facial nerve paralysis if we had detected and drained the abscess by ultrasound-guided FNAB. We believe that radiologic examination should not be ignored in suspicion of a parotid abscess. In conclusion, it should be kept in mind that facial paralysis may be caused by acute suppurative parotitis and parotid abscess.

REFERENCES

1. House JW, Brackmann DE. Facial nerve grading system. *Otolaryngol Head Neck Surg* 1985;93:146-7.
2. Brook I. Acute bacterial suppurative parotitis: microbiology and management. *J Craniofac Surg* 2003;14:37-40.
3. Duff TB. Parotitis, parotid abscess and facial palsy. *J Laryngol Otol* 1972;86:161-5.
4. Shone GR, Stewart S. Facial paralysis in parotitis. *Br J Surg* 1985;72:902.
5. Andrews JC, Abemayor E, Alessi DM, Canalis RF. Parotitis and facial nerve dysfunction. *Arch Otolaryngol Head Neck Surg* 1989;115:240-2.
6. DeLozier HL, Spinella MJ, Johnson GD. Facial nerve paralysis with benign parotid masses. *Ann Otol Rhinol Laryngol* 1989;98(8 Pt 1):644-7.
7. Pang YT, Raine CH. Acute suppurative parotitis and facial paralysis. *J Laryngol Otol* 1996;110:91-2.
8. Smith DR, Hartig GK. Complete facial paralysis as a result of parotid abscess. *Otolaryngol Head Neck Surg* 1997;117:S114-7.
9. Marioni G, Rinaldi R, de Filippis C, Gaio E, Staffieri A. Candidal abscess of the parotid gland associated with facial nerve paralysis. *Acta Otolaryngol* 2003; 123:661-3.