Sudden Facial Asymmetry with Parotid Swelling

Parotis Şişmesi ile Gelişen Ani Yüz Asimetrisi

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ABSTRACT

A previously healthy 17-year-old male presented with sudden onset of painful right parotid swelling. It was sudden in onset without any history of trauma. The patient developed deviation of the angle of mouth to the opposite side after 2 days of presentation. A diagnostic aspiration revealed low-flow blood which provided a direction to the final diagnosis of a venous malformation of the right parotid gland. Percutaneous sclerosant embolization with STS under ultrasound guidance was performed and the facial asymmetry with the parotid mass resolved completely within 6 weeks.

Keywords: Parotid tumour; facial paralysis; acute facial palsy; venous malformation

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ÖZET

Daha önce sağlıklı olan 17 yaşında bir erkek hasta, ani başlayan ağrılı sağ parotis şişliği ile başvurdu. Herhangi bir travma öyküsü olmadan aniden başladı. Hastanın başvurusundan 2 gün sonra ağız açısının karşı tarafa kayması gelişti. Tanısal bir aspirasyon, sağ parotis bezinin bir venöz malformasyonunun kesin teşhisini sağlayan düşük akışlı kan ortaya çıkardı. Ultrason eşliğinde STS ile perkütan sklerozan embolizasyon yapıldı ve parotis kitlesi ile fasiyal asimetri 6 hafta içinde tamamen düzeldi.

Anahtar Sözcükler: Parotis tümörü; yüz felci; akut yüz felci; venöz malformasyon

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INTRODUCTION

Acute painful swellings of the parotid gland have been traditionally linked to infection, inflammation, and trauma. Venous malformation (VM) of the parotid gland is a relatively rare entity, which commonly presents as slow-growing painless preauricular swelling with only 50 documented cases in the literature to date (1). So far, facial nerve involvement in venous malformations of the parotid gland has not been documented. Hence, the journey in reaching the diagnosis may be a little longer especially when the facial nerve is involved.

CASE REPORT

A previously healthy 17-year-old male presented with one-day history of sudden-onset right painful preauricular swelling. According to the patient, he suddenly realised the right preauricular swelling was associated with limited mouth opening and odynophagia. There was no history of trauma, fever, obstructive or constitutional symptoms. Further history revealed similar episode during childhood however the swelling regressed completely with oral antibiotics.

On examination, patient was comfortable under room air. Right preauricular swelling was noted to extend to the retromandibular area. The overlying skin was warm but not erythematous and was extremely tender. The swelling had a soft consistency at the preauricular area with no punctum but firm at the retromandibular aspect. Otherwise, the mass was not pulsatile with no audible bruit, not fixed to underlying structures. There was no facial nerve involvement at presentation. Otoscopic and nasal examination was unremarkable. A bedside flexible nasopharyngolaryngoscopy was normal with no medialisation noted. Baseline blood investigations taken including full blood picture, renal profile, liver function test, coagulation profile were within normal parameters. A contrast-enhanced computed tomography revealed multiple non-rim enhancing hypoechoic areas of less than 1cm in size and involving the deep lobe of the right parotid gland (Fig.1). A calcified focus was noted on the right sternomastoid. The patient was admitted and started on intravenous co-amoxiclav and metronidazole. The swelling became increasingly more painful over the next 2 days and close inspection revealed sudden onset facial asymmetry. A repeated CECT showed similar findings and the repeated blood investigations were unremarkable. A diagnostic aspiration performed at the retromandibular region of the swelling yielded 20cc of low-flow blood aspiration. Post procedure, the patient claimed the pain over the swelling has reduced significantly. However, the swelling became increasingly more painful after 4 hours and patient was put on patient controlled-anesthesia (PCA) morphine for pain control. Magnetic resonance imaging was subsequently performed revealed a large multi-cystic lesion occupying the superficial and deep lobe of the right parotid gland measuring 5.5.cm (Anterior-Posterior) x 6.6cm (Transverse) x 8.3cm(Longitudinal) suggestive of vascular lesion (Fig.2). The mass is also seen encasing the right scalene anterior and medius muscle. Other surrounding structures are not involved. The patient underwent percutaneous sclerosant embolization with sodium tetradecyl sulfate (STS) under ultrasound guidance (Fig.3). Post embolization showed remarkable resolution in pain and size of right parotid swelling. The patient also showed improved oral intake in the subsequent days. Follow up visits showed further reduction in size of the swelling and 6 weeks post sclerosant therapy patient did not have any more neck swelling or tenderness. To our surprise, the facial nerve palsy reverted to grade 1.

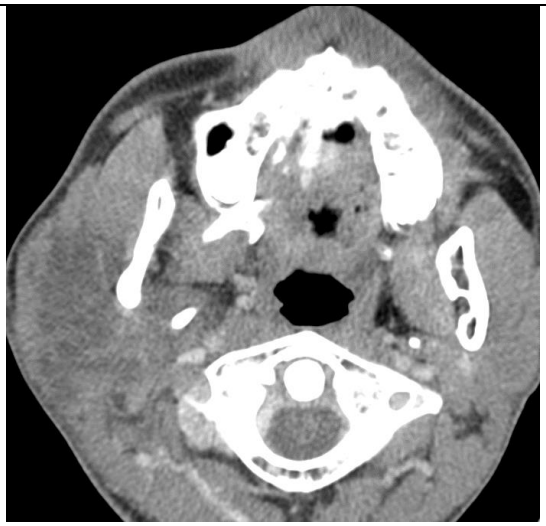

Figure 1

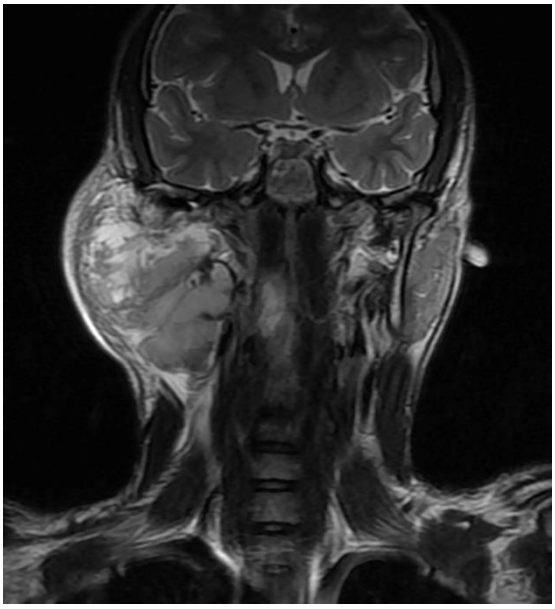

Figure 2

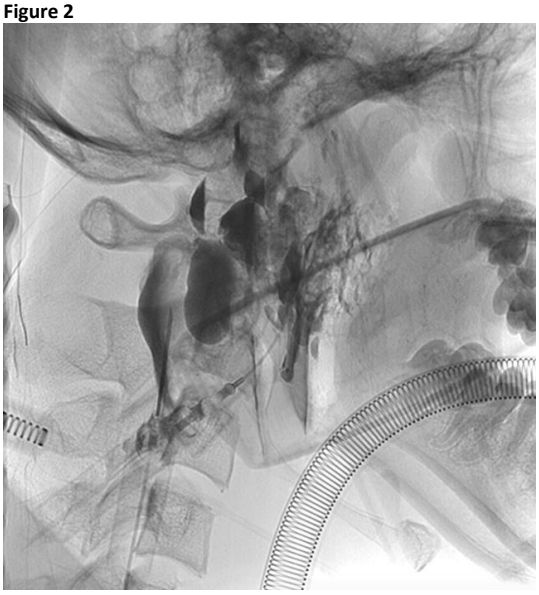

Figure 3

DISCUSSION

Vascular malformations are present from birth and are rare slow growing malformations and form only 1.6% of all parotid lesions (1). Most are venous malformations which are slow-flow malformations that occur predominantly in the head and neck (40%), trunk (20%) and extremities (40%). According to a study, vascular malformations involved 60% of the superficial lobe of the parotid, 20% deep lobe and 20% of the masseter muscle (1). The incidence rate of venous malformations is 1 to 2 per 10,000 people, and they can occur anywhere in the body but approximately 40% are known to occur in the head and neck (2).

Typical presentation of a venous malformation of the parotid gland would be a unilateral painless compressible swelling present since birth and grows larger with age. However, stagnant blood can predispose to spontaneous thrombosis and subsequent pain and swelling as is the presentation of this case. The history of previous attacks of pain and swelling which resolved without any intervention was probably due to similar thromboses but in this case the pain and swelling did not regress.

The diagnostic aspiration of pressured blood gave a high suspicion of a vascular anomaly which led to an MRI and subsequent diagnosis. Sclerosant therapy was decided upon and sodium tetradecyl sulphate (STS) given percutaneously on day 5 of presentation. The patient had developed neuropraxia of the right marginal mandibular branch of the facial nerve 2 days after presentation to our centre. Benign conditions of the parotid gland causing facial nerve palsies are rare and are usually attributed to parotid abscesses. They are a more commonly seen in malignant parotid lesions.

The reason for the facial nerve palsy in infective parotid diseases are probably locally infective toxicity like but in this case more likely the cause is due to acute compressive effects of the venous malformation on to the nerve branches. This would probably cause ischaemic neuropathy and the subsequent palsy (3). Once this compressive pressure was reduced the nerve recovered gradually over the span of 6 weeks. Involvement of the facial nerve in complicated venous malformation of the parotid gland has not been documented before.

Traditionally, parotid swelling with facial swelling points towards malignant lesion (4) notably adenoid cystic carcinoma followed by mucoepidermoid carcinoma. On another note, benign parotid lesion resulting in facial nerve palsy has also been documented especially involving pleomorphic adenoma, Warthin's tumour and benign cysts, and to a lesser extent parotitis and parotid abscess (5). Nonetheless, vascular malformation of the parotid gland ought to be considered in the differential diagnosis.

CONCLUSION

Venous malformations of the parotid gland are relatively rare entities but should be suspected when infection of the parotid gland has been ruled out.Involvement of the facial nerve in an acute enlargement of the parotid venous malformation should be dealt with promptly to prevent permanent palsy as in this case percutaneous sclerosant therapy was performed 3 days after the facial nerve was involved.

Conflict of interest

No conflict of interest was declared by the authors.

REFERENCES

1. Achache M, Fakhry N, Varoquaux A et al.Management of vascular malformations of the parotid area. Eur Ann Otorhinolaryngol Head Neck Dis. 2013;130(02):55–60.

2. Kumar S, Kumar V, Kumar S, et al. Management strategy for facial venous malformations. Natl J Maxillofac Surg. 2014;5:93–6

3. Smith DR, Hartig GK. Complete facial paralysis as a result of parotid abscess. Otolaryngol Head Neck Surg. 1997;117:S114–7

4. Hajiioannou JK, Florou V, Kousoulis P, Kretzas D, Moshovakis E. Reversible facial nerve palsy due to parotid abscess. Int J Surg Case Rep. 2013;4(11):1021-1024.

5. Jecker P., Hartwein J. Facial paralysis in benign parotid tumor: case report and review of the literature. Laryngorhinootologie. 1993;72(4):204–206.