PAROTID ABSCESS: AN UNUSUAL CAUSE OF FACIAL PALSY
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HOW TO CITE THIS ARTICLE:

ABSTRACT: Facial nerve palsy with a parotid mass is usually associated with malignant neoplasm of parotid gland. Its occurrence as a complication of parotid abscess is extremely rare. A literature review revealed only 16 cases of facial nerve palsy associated with suppurative parotitis or parotid abscess were reported. We present a case of parotid abscess which is complicated by facial nerve dysfunction. Underlying neoplasia was excluded.

KEY WORDS: Abscess, Parotid, Facial palsy

INTRODUCTION: Facial nerve palsy associated with parotid gland mass is always caused by malignant neoplasm of the gland. It has been documented in benign parotid disease such as benign mixed tumours, Warthin’s tumour, parotid cysts and alveolar duct malformation. Its occurrence complicating parotitis or parotid abscess is exceedingly rare with only 16 cases found in literature review.

CASE REPORT: A seventy-nine year old male patient presented with left sided facial swelling for 20 days. His presenting symptoms were intermittent fever, pain in the swelling. There was no dysphagia, sore throat or dental pain, history of pain on mastication or parotid disease. Patient was a known case of ischemic heart disease, hypertension, type 2 diabetes mellitus, cerebrovascular accident and bronchial asthma.

On examination, he was afebrile. He had left sided neck swelling measuring about 8 x 6cm over the angle of mandible, which was indurated but no area of fluctuance [fig 1]. The facial nerve function was normal. There was no palpable cervical lymphadenopathy. Oral examination was unremarkable.

The white blood cell count was 13.6 x 10⁹L. He was treated with intravenous antibiotics (IV amoxicillin-clavulanate 1.2gm q8h and IV metronidazole 500mg q8h). In the ward it was noted that his glucose and blood pressure readings were persistently high. Hence insulin injection and antihypertensive drugs were started.

Soft tissue scan showed features of parotitis [fig 2]. FNAC of the swelling showed features of suppurative parotitis. The following day he developed left peripheral facial palsy (House-Brackmann grade IV). Single necrotic patch was noted was noted on the swelling. Incision and drainage of the abscess was immediately done draining frank pus about 15-20 ml. Culture of the purulent material showed MSSA (methicillin sensitive staphylococcus aureus. Histopathology examination showed no evidence of malignancy [fig 3]. PET-CT done outside previously showed no evidence of malignancy. Post-procedure he remained afebrile. Swelling reduced in size. On day 14 he was discharged, but there was no change in the degree of facial nerve palsy.

DISCUSSION: Parotitis can be caused by a variety of pathogens. The most common bacteria are Staphylococcus aureus and anaerobic bacteria⁴. Viral agents such as Epstein-Barr virus, HIV and
human parvovirus B19 have been reported to cause intraparotid lymphadenitis with facial palsy. Candida albicans has also been isolated in a parotid abscess. In most of the reported cases of parotitis with facial palsy, no pathogen was isolated. Diabetes mellitus was an aggravating factor in this patient. When poorly controlled, there is disturbance of cell-mediated immunity, alterations in opsonization and decreased chemotactic activity of granulocytes and monocytes.

A few mechanisms have been proposed of the pathogenesis of facial nerve dysfunction secondary to inflammatory parotid gland disease. These include the virulence of the offending organisms and perineuritis. In this case it may be possible it arises from local toxic effects from the intense surrounding parotitis, and ischaemic neuropathy with acute facial nerve compression secondary to the rapidly expanding abscess.

The House-Brackmann grading system is a useful tool in assessing the degree of facial weakness in facial nerve injury. Grade I is normal, Grade II is mild dysfunction, complete eye closure with minimal effort. Grade III shows obvious weakness, but eye closure is complete and asymmetrical mouth movement with maximal effort. Grade IV shows disfiguring weakness with inability to lift eyebrow, incomplete eye closure and asymmetry of mouth. Grade V shows barely perceptible motion, slight movement of corner of mouth. Grade VI is total paralysis with loss of tone.

As a general therapeutic approach to bacterial parotitis, broad-spectrum intravenous antibiotics which cover gram-positive and gram-negative bacteria and anaerobes were started. As per culture sensitivity report, in this patient, linezolid was started. Hydration, oral hygiene and sialagogues also play a vital role in controlling symptoms. A CT scan is generally necessary to rule out underlying malignancy especially when facial nerve paralysis occurs. It also helps to differentiate between abscess and parotitis as well as indicating the precise location of the collecting purulent material. Surgical intervention is required once abscess is confirmed, taking care not to further damage the nerve. In this case, surgery was performed in an attempt to restore a good recovery of facial nerve function.

The degree of facial nerve recovery does not correlate with the severity or the extent of the initial nerve involvement, or presence of infection. However it depends on the amount of trauma to the nerve during surgery. The chances of recovery are good when etiology of parotid pathology is benign, however due to the very low incidence of paralysis associated with suppurative parotitis; the percentage of recovery in these patients remains unknown. Our patient was followed up for a period of 3 months, after which he was lost to follow up – there was no change noted in the degree of facial nerve palsy.

CONCLUSION: Facial nerve paralysis associated with suppurative parotitis, although a rare entity should be kept in mind for several reasons. Firstly, facial nerve palsy with a parotid swelling does not categorically indicate a malignant parotid tumour. Palsy associated with benign tumours have also been known to occur. Secondly, failure to perform adequate and speedy drainage may lead to facial nerve palsy as a complication. Thirdly, a high index of suspicion of non-iatrogenic facial palsy developing during treatment of a parotid abscess may help starting the appropriate treatment for the facial nerve palsy as well, usually corticosteroids and facial physiotherapy.
REFERENCES:

Figure 1: Clinical photograph from left lateral view showing the abscess after incision

Figure 2: Clinical photograph showing left sided parotid swelling

Figure 3: Ultrasound showing abscess within the left parotid gland
Figure 4: Histopathology showing dense suppurative inflammation of the parotid gland with neutrophilic infiltration.

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Date of Submission: 03/08/2013.
Date of Peer Review: 05/08/2013.
Date of Acceptance: 06/08/2013.
Date of Publishing: 10/08/2013.