

Case Report

Lower motor neuron facial palsy secondary to parotid abscess - first sign of uncontrolled diabetes mellitus: a case report

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ABSTRACT

Facial paralysis associated with parotid disease is usually caused by a malignant process. Facial nerve palsy due to parotid gland abscess is very rare with only about 10 previously reported cases. Parotid abscess with facial palsy may be the first presenting symptom of underlying diabetes mellitus. We report a case of a 35-year-old man, not a known case of diabetes or hypertension, who presented with a right sided parotid abscess and difficulty in mouth opening with grade 4 facial nerve palsy, who on investigation was found to have underlying uncontrolled diabetes mellitus. Parotid abscess is mainly seen in elderly, diabetic and immunocompromised. Facial nerve palsy secondary to parotid abscess is a rare condition but probably underreported. Facial nerve palsy associated with parotid abscess is rare and may be one of the first presenting feature of uncontrolled diabetes mellitus.

Keywords: Facial palsy, Parotid abscess, Diabetes mellitus

INTRODUCTION

Lower motor neuron (LMN) facial palsy may be caused due to multiple etiology.¹ Parotid abscess may arise from ductal ectasia, primary parenchymal involvement or infection of intra-parotid lymph nodes.²

Facial nerve palsy due to parotid gland abscess is very rare, with only about 10 previously reported cases.³ Facial paralysis associated with parotid disease is usually caused by a malignant process.⁴ Majority of the facial palsy due to parotid abscess affect elderly patients with underlying comorbidity especially diabetes.⁵ Parotid abscess with facial palsy may be the first presenting symptom of underlying diabetes mellitus.⁶

Although a conservative treatment with hydration and broad-spectrum antibiotics are the first choice, surgical intervention may be required in patients with no response to medical treatment.⁷

CASE REPORT

A 35 year-old male presented to ENT OPD of Dr. B.R. Ambedkar Medical College and Hospital, with a swelling below and behind the right ear, accompanied by fever, pain during mastication and difficulty in mouth opening since 2 weeks. Symptoms had aggravated since 2 days. He was not a known case of diabetes or hypertension.

On examination, patient was toxic in appearance. He was febrile with temperature of 101 F. There was a solitary, diffuse, non-fluctuant, tense and tender swelling, measuring 10×10 cms in size. Extending from about 7 cms from the angle of mouth upto the mastoid in its horizontal diameter, and from the tragus to about 3 cm below the angle of mandible with facial nerve palsy of grade 4 (House-Brackmann classification). Examination of the oral cavity revealed a restricted mouth opening and a bulge around the ductal opening with no active purulent discharge. Rest of ENT was normal (Figure 1 and 2).



Figure 1: LMN facial palsy.



Figure 2: Right parotid abscess (lateral view).

Complete blood count showed leukocytosis ($15700/\text{mm}^3$) with neutrophilia indicating acute bacterial etiology. The blood sugar levels were elevated (FBS- 296 mg/dl, PPBS- 417 mg/dl, HbA1C- 11.5). Urine ketone bodies were positive and serum electrolytes were normal. USG showed acute parotid sialadenitis with associated multifocal organizing abscess within.

Broad spectrum intravenous antibiotics (amoxicillin with clavulanic acid, metronidazole and amikacin) along with

insulin according to sliding scale were started immediately along with IV fluids to ensure good hydration.



Figure 3: Incision and drainage of the parotid abscess.

After 5 days of conservative management, pain subsided completely but swelling persisted. Hence incision and drainage were done under GA using modified Blair's incision and the pus was completely evacuated and sent for culture and sensitivity (Figure 3). Culture test showed no organisms. Post incision and drainage, all the symptoms were relieved, except for facial palsy. Daily dressing was done for 6 days and patient was discharged, wound was secondarily sutured during follow-up period. Facial paresis showed improvement to grade III at the time of discharge. He was further lost to follow up.

DISCUSSION

Acute suppurative sialadenitis is primarily attributed to salivary stasis and is believed to result from ductal obstruction or decreased production of saliva.⁸ Parotid abscess is mainly seen in elderly, diabetic and immunocompromised patients. The incidence and pathophysiology of facial palsy in conjunction with parotid abscess or parotitis are unknown.⁹ Facial nerve palsy secondary to parotid abscess is a rare condition, but is probably under-reported. There have been only 10 reported cases so far.¹⁰

Few mechanisms proposed in the pathogenesis of facial nerve dysfunction include virulence of offending

organism and perineuritis, local toxic effects from the intense surrounding parotitis and ischaemic neuropathy with acute facial nerve compression secondary to rapidly expanding abscess.¹¹

Ultrasound scan is the initial modality for diagnosis of parotid gland abnormalities, but CT scan is the imaging modality of choice as it helps to rule out malignancy and parapharyngeal extension.¹²

Management should initially be conservative with aggressive broad-spectrum antibiotics, rehydration, sialogogues and good oral hygiene with an adequate diabetic control. Surgery is indicated if facial nerve is affected, if the clinical condition does not improve despite antibiotic treatment for 3 to 5 days, or if the deep neck spaces are involved.¹³

Incision and drainage are the treatment of choice in parotid abscess. The Blair technique is used with a preauricular retromandibular (modified Blair) incision given, flaps of skin and subcutaneous tissues are reflected superficial to parotid fascia and then multiple openings are made always parallel to branches of facial nerve to drain the pus without further damage to facial nerve. Abscesses can also be punctured under USG guidance as an alternative.¹⁴

The recovery of facial nerve paralysis in cases of parotid abscess varies. It usually has a good prognosis. Complete recovery is the commonest outcome, usually within 2 months, although there have been cases with residual paralysis even after 6 months.¹⁵ Our patient was lost to follow-up but facial palsy had improved to grade 3 at the time of discharge.

Hence in case of an acute LMN facial palsy with parotid abscess, in the event of exclusion of malignancy, any underlying immunocompromised states like type 2 Diabetes mellitus should be thoroughly investigated.

Hence this case is reported to highlight a rare benign case of parotid abscess causing LMN facial palsy due to secondary diabetes mellitus.

CONCLUSION

Facial nerve palsy associated with a benign parotid condition like parotitis is rare. LMN facial palsy with parotid abscess may be one of the first presenting feature of an uncontrolled diabetes mellitus. But facial palsy recovers with appropriate antibiotics and surgical intervention with adequate control.

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