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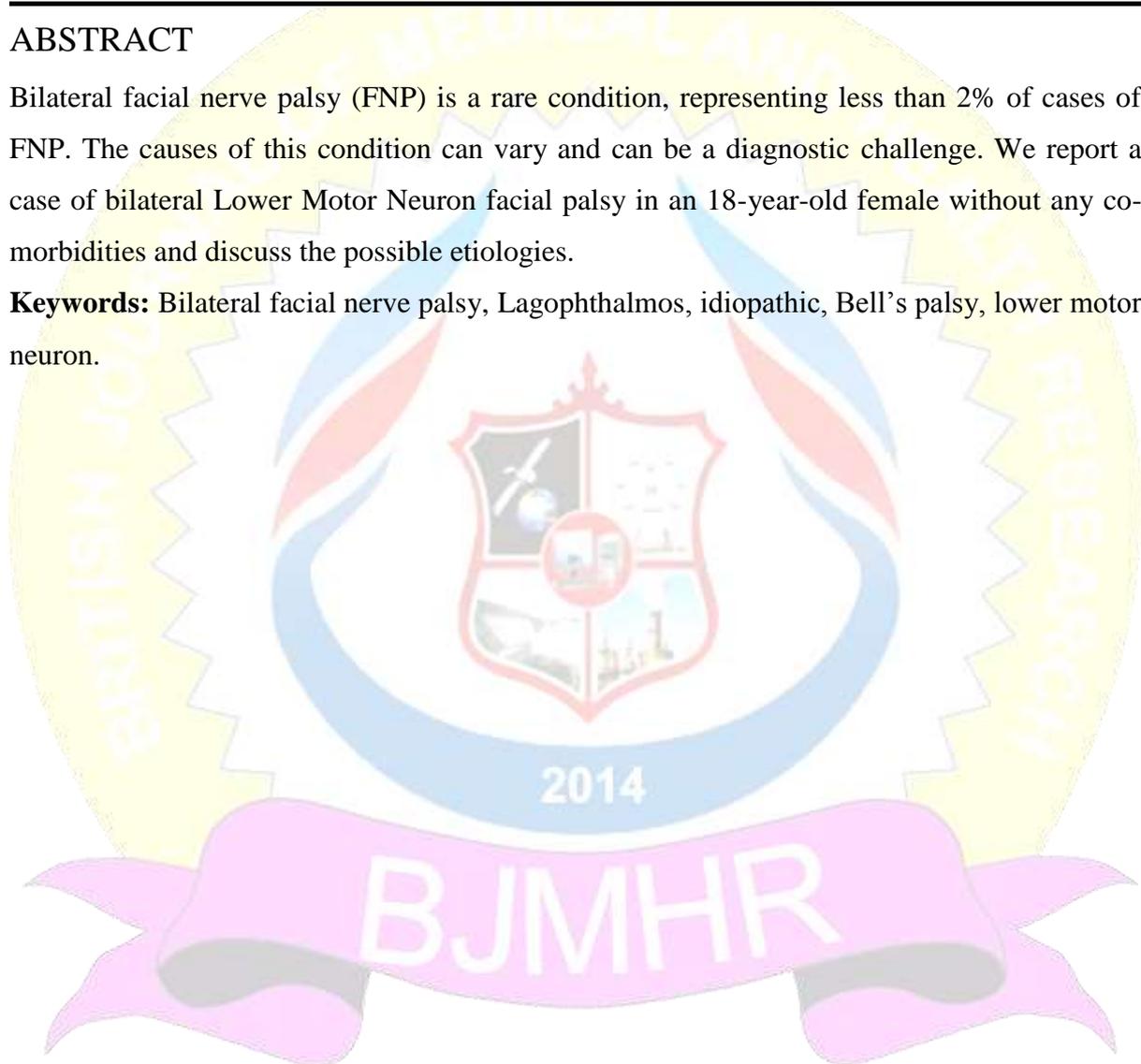
Simultaneous Bilateral Facial Nerve Palsy In A Young Healthy Female

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ABSTRACT

Bilateral facial nerve palsy (FNP) is a rare condition, representing less than 2% of cases of FNP. The causes of this condition can vary and can be a diagnostic challenge. We report a case of bilateral Lower Motor Neuron facial palsy in an 18-year-old female without any comorbidities and discuss the possible etiologies.

Keywords: Bilateral facial nerve palsy, Lagophthalmos, idiopathic, Bell's palsy, lower motor neuron.



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INTRODUCTION

Unilateral facial palsy is a common entity, most commonly due to idiopathic or Bell's palsy where no cause can be detected. Bell's palsy accounts for about 70% cases of unilateral facial palsy. Bilateral facial palsy, however, is extremely rare and most often due to serious underlying medical conditions. In such cases, treatment must be initiated at the earliest and outcome depends on the cause. Bell's palsy accounts for only 23% cases of bilateral facial paralysis.^{1,2}

The possible causes of bilateral facial nerve palsy include Guillain-Barre Syndrome, multiple idiopathic cranial neuropathies, Lyme disease, sarcoidosis, meningitis, encephalitis, leukemia, Melkersson-Rosenthal syndrome, diabetes mellitus, HIV, syphilis, vasculitis, bilateral neurofibromas and Epstein-Barr virus infection or infectious mononucleosis.²⁻⁸

We report a case of an 18-year-old female who presented with bilateral LMN facial palsy started on the left side followed by the right within 2 days of onset.

CASE HISTORY

An 18-year-old girl presented to the ophthalmology outpatient department with left sided facial weakness for 2 days, followed by inability to completely close the right eye for one day (Figure 1). She denied any fever, headache, neck pain, vomiting, visual disturbances, giddiness or history of recent travel. She had no symptoms of difficulty in walking or weakness of one side of the body.



Figure 1: At the time of presentation, showing bilateral lagophthalmos, left eye more than right

A detailed ocular and systemic evaluation was done to rule out various causes for the same. Vision in both eyes was 6/6, N6. She had bilateral lagophthalmos - left eye more than the right- with normal extraocular movements and good Bell's phenomenon. Left eye showed minimal exposure keratopathy. Pupillary reactions and fundus examination were normal in both eyes.

Cranial nerve examination showed features suggestive of bilateral LMN facial palsy. All other cranial nerves were intact. Remaining CNS examination like power, deep tendon reflexes and sensory examination was unremarkable.

Physical examination did not reveal any evidence for Hansen's disease, sarcoidosis or neurofibromatosis.

Laboratory workup revealed normal blood counts, ESR, serum glucose, liver and renal functions. VDRL, HIV screening were normal.

No abnormality was detected on chest -Xray and Magnetic Resonance Imaging of the brain.

A presumptive diagnosis of bilateral Bell's palsy was made and she was started on oral Prednisolone 30mg daily x 5 days, then tapered and stopped over 15days. Physiotherapy was also started at the same time. For the lagophthalmos, she was put on frequent tear supplements and asked to tape her eyelids at night.

On review in the outpatient clinic 2 weeks later, she showed symptomatic improvement. The right side had recovered significantly, while the left side still showed weakness and lagophthalmos (Figure 2). Next follow up after 6 weeks showed marked improvement in both eyes.



Figure 2: At review 2 weeks later, showing improvement, right eye more than the left.

DISCUSSION

Bilateral simultaneous facial nerve palsy is very rare, representing less than 2% of all cases of FNP and hence a diagnostic dilemma. Simultaneous bilateral facial palsy is reported to occur in only 1 in 5 million patients⁹. It is considered present if the time elapsed from paralysis of one side to paralysis of the other side is less than 4 weeks⁹. As majority of cases are due to serious underlying causes, it should be carefully investigated to establish the cause⁶.

Guillain-Barre Syndrome - a systemic disease mainly affecting the peripheral nervous system - may present with facial nerve involvement in 27-50% of cases, sometimes bilaterally. Our patient had no symptoms of peripheral or respiratory muscle weakness or areflexia and her nerve conduction study was normal, ruling out this condition^{2,7}.

Lyme's disease, a multisystemic illness caused by spirochete *Borrelia burgdorferi* transmitted by tick bites is the most common infectious cause of facial palsy in endemic areas. As our patient had no history of contact with ticks or travel in the recent past this diagnosis was unlikely^{2,6}.

Sarcoidosis and systemic lupus erythematosus (SLE) are other diseases associated with facial diplegia, but with a low ESR, normal chest X-Ray and absence of other symptoms and signs they were considered less probable in our case^{6,8}. Epstein-Barr Virus (EBV) infection is another well recognized cause for facial palsy in the western world especially in children, but due to the rarity of this condition in India and lack of symptoms, this was not explored further³.

Melkersson–Rosenthal syndrome, which includes the triad of recurring facial paralysis, swelling of the face and lips and the presence of folds and furrows in the tongue, was also ruled out clinically⁸. Literature states syphilis as another cause. VDRL was normal in our patient.

MRI brain was normal in our patient, making conditions such as posterior cranial fossa tumours, CNS leukaemia, lymphoma and benign intracranial hypertension unlikely.

MRI finding in bilateral Bell's palsy is reported as abnormal bilateral enhancement of the proximal intracranial segments of the facial nerves without any swelling¹⁰.

Treatment of Bell's palsy is conservative and is guided by the severity and duration of the palsy. The goal of treatment is to relieve the symptoms. In patients with facial paralysis, it is important to consider corneal irritation and ulceration. The use of artificial tears and eye closure at night reduces the risk of exposure keratitis¹¹.

Corticosteroids or antiviral drugs may decrease the swelling and relieve pressure on facial nerve thereby improving the symptoms. Although bilateral facial nerve palsy may be more severe than unilateral palsy, the prognosis in most cases is as good as that in unilateral facial palsy. Usually one side recovers function faster than the other side and may take several weeks to months for complete recovery.⁹

CONCLUSION

Bilateral facial nerve palsy is an exceedingly rare clinical entity and is usually due to underlying serious medical conditions. It requires a thorough work-up to ascertain the probable etiology before establishing the diagnosis of Bells idiopathic palsy.

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