

CASE REPORT



Bell's palsy diagnosis and management of perplexing entity in a young woman: A case report

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Abstract

Bell's palsy is a benign lower motor neuron facial nerve disorder. It is usually caused by traumatic, infective, inflammatory, or compressive conditions on the nerve. Many cases are also with no identifiable etiologies and are classified as idiopathic. We report a case of 24-year-old female patient who came to the department of oral medicine and radiology with a deviation of mouth to the right side on making an effort to smile and difficulty in closing the left eye for 3 days. On clinical examination, there was a lack of movement of the left forehead and eyebrows, inability to close the left eye completely and hyperkinesia of the left cheek. No definitive etiology could be traced out, hence, considered as unilateral idiopathic Bell's palsy of the left side. Patient was given steroid and encouraged to do tailored facial exercises which showed improvement in the symptoms, hence, no other interventions were made to treat this condition.

Keywords: Bell's palsy, facial palsy, hemifacial paralysis, steroid

Introduction

Bell's palsy is the paralysis or severe weakness of the nerve that controls the facial muscles on the side of the face - the facial nerve or seventh cranial nerve. Patients typically find they suddenly cannot control their facial muscles, usually on one side. Bell's palsy usually starts suddenly and it must not be confused with cerebral palsy, a completely different condition. It more commonly affects people over 15 and under 60 years of age and affects men and women equally Bell's palsy has an annual incidence of 11–40 cases per 100,000 population.^[1] In many cases, no proper etiology is identified, and the eventual diagnosis is idiopathic (Rajendra and Sivapathasundharam, 2006). There are many theories about the cause of Bell's palsy, but the etiology is unknown. The most common etiological factor is that it is caused by a virus similar to herpes simplex or zoster. Other proposed etiologies include physiologic compression of the nerve due to arteriospasm, venous congestion or ischemia, and narrowing of the bony canal.^[2] Affected patients are usually unable to close their eyes.

Facial appearance becomes asymmetric, and saliva dribbles down the angle of the mouth. Depending on the site of the lesion, some patients may complain of noise intolerance or loss of taste sensation.^[3] The treatment of facial palsy is controversial because as many as two-thirds of patients recover spontaneously; however, up to 30% have poor recovery of facial muscle control

and experience facial disfigurement, psychological trauma, and facial pain.^[4] Corticosteroids alone or associated with antiviral agents have been recommended.^[2]

Here, we report a case of unilateral facial nerve palsy in young women without a definite cause.

Case Report

A 24-year-old female patient reported to the department of oral medicine and radiology with a complaint of deviation of mouth to the right side on making an effort to smile and increased watering from the left eye for 3 days. On further eliciting, the history patient revealed that sudden onset of facial asymmetry while smiling, inability to spit due to incomplete lip seal, and inability to completely close left eye. She denied any numbness, tingling, or weakness in her extremities, recent cold sores, ear discharge, or recent trauma. She also denied any changes in hearing or ear pain or prolonged exposure to cold wind. The patient noted no previous medical history.

She was moderately built and well oriented. On extra oral examination, there was facial asymmetry, inability to spit and whistle properly due to incomplete lip seal, on blowing deviation of face indicating facial asymmetry [Figure 1a] reduced blinking of left eye [Figure 1b], deviated smile line [Figure 1c], decreased wrinkling of forehead in relation to the left side [Figure 1d], slightly obliterated left nasolabial fold, no deviation

and tenderness in TMJ region. The intraoral examination was not contributory. Based on history and characteristic clinical features, diagnosis of unilateral idiopathic Bell's palsy of the left side was given with the House–Brackmann facial nerve grading as Grade IV - moderate dysfunction.^[5]

She was advised Tab Wysolone (prednisolone) 20 mg OD for 1 week after food, tab Rantac (histamine receptor blockers) OD for 1 week before food along with physiotherapy exercises. Facial exercises are performed while standing in front of a mirror and include trying to raise the eyebrows, opening and closing the eyes, blowing, and whistling, 5 times each, 3 times per day. Patient was recalled after 1 week and there was a moderate improvement in symptoms [Figure 2], so the dose of Tab Wysolone (prednisolone) was reduced to 10 mg OD for 1 week. A complete recovery was achieved 2 weeks after presentation [Figure 3].

Discussion

Bell's palsy is a common diagnosis for an individual with unilateral facial paralysis; however, it is a diagnosis of exclusion, and all other causes of facial paralysis must be ruled out. History alone can suggest that the facial paralysis is not typical of Bell's palsy. Signs and symptoms not consistent with Bell's palsy should lead the clinician to perform a thorough examination or refer to another health-care provider to determine the source of the paralysis.^[6]

The exact etiology of Bell's palsy is still uncertain. Since the first report of reactivation of herpes simplex virus as the possible cause of Bell's palsy in 1972, there has been a growing body of evidence to support this theory. However, there still exists tremendous controversy regarding its etiology and risk factors. Additional postulates have implicated anatomic, autoimmune, vascular, enzymatic deficiency, idiopathic, and immune dysregulation as potential causal factors.^[7] As with the present case, the etiology seems to be idiopathic. In one of the more extensive case series analyses, Wilbrant and Blumhagen describe a population of 230 individuals with idiopathic peripheral seventh nerve palsy.^[8]

In a Bell's palsy patient, the following signs occur on the same side of the face as the lesion: Rapid onset of unilateral facial weakness, with mask-like appearance. Pain and numbness or stiffness on the affected side of the face, especially in the temple, mastoid area and along the angle of the mandible without actual sensory loss. Facial appearance becomes asymmetric, patients are unable to wrinkle half of their forehead, corner of the mouth drops while smiling, saliva dribbles down the angle of the mouth, unable to purse the lips, unable to close one eye completely, or to wink, widening of the palpebral fissure is seen with bell's phenomenon. Bell's phenomenon is a classic condition wherein the eye cannot close without a simultaneous movement of the eyeball upward and outward. There may be dry mouth due to decreased salivary secretion, loss of taste sensation over the anterior tongue, inability to blow air, inability to clench teeth or grin, speech slurred, obliteration of nasolabial fold, and hyperacusis (noise intolerance).^[9] Most of the signs are noted in the present case.



Figure 1: Facial aspect of patient showing Bell's palsy on the left side during 1st visit, (a) inability to blow, (b) incomplete left eye closure, (c) inability to smile, (d) no movement in upper left eyebrow



Figure 2: Follow-up of the patient after 1 week of the treatment with steroids and facial exercises



Figure 3: Complete regression of the symptoms after 2 weeks of the treatment with steroids and facial exercises

Conditions that may mimic Bell's palsy include central nervous system neoplasms, stroke, HIV infection, multiple sclerosis, Guillain-Barré syndrome, Ramsay Hunt syndrome, Melkersson-Rosenthal syndrome, Lyme disease, otitis media, cholesteatoma, sarcoidosis, trauma to the facial nerve, and autoimmune diseases such as Sjogren's syndrome, and metabolic disorders such as diabetes mellitus. No specific laboratory test confirms the diagnosis of facial paralysis; its assessment remains clinical.^[10] It is important to emphasize the fact that we followed this patient weekly and noted that she was recovering very well.

The main goal of the treatment is to improve the function of the facial nerve and reduce neuronal damage. In most of the cases, no treatment is required as it can spontaneously recover by itself 71%, 84% achieve near normal function. Management includes eye protection, treatment with corticosteroids or antivirals. Eye ointment is used to avoid trauma to and drying out of the cornea.^[11]

According to the Cochrane reviews, the available evidence from randomized controlled trials does not show significant benefit from treating facial paralysis with steroids alone. The American Academy of Neurology found insufficient evidence in Class I studies to definitively establish the efficacy of steroid treatment. Nevertheless, based on pooled results of Classes I and II studies and a relatively benign side effect profile, they concluded that steroids are safe and probably effective in improving facial functional outcomes in patients with Bell's palsy due to their powerful anti-inflammatory effect. Treatment with corticosteroids should begin within 5 days (earlier if possible) after the onset of palsy and should only be used in the first 7 days.^[12] There is no optimum regimen, but in adults 50–60 mg prednisolone daily for 10 days has been commonly used. Prednisolone has been used at a dose of 1 mg/kg/day up to a maximum of 80 mg in some studies.

It is important for patients with Bell palsy to have a well-trained physiotherapist in the surrounding team to start training early after onset with correct activity. Physiotherapy in combination with drugs like cortisone has been shown to benefit from a significant increase in facial function.^[13] In this case, patient was treated only by steroids and facial exercises which showed a significant improvement within 2 weeks. Facial exercises facilitate the return of intended facial movement patterns and eliminating unwanted patterns of facial movement and expression.

A good prognosis is associated with Bell's palsy seen in younger individuals compared to elderly people. Bell's palsy usually does not recur.^[14] Bell's palsy reported in our patient regress completely with the treatment which she received at the

time of onset of the facial palsy.

Conclusion

Bell's palsy remains a complex and mysterious entity from a pathophysiologic perspective. A detailed history and thorough clinical examination should be carried out in patients with facial palsy to correctly identify the condition which will help in further planning and executing the correct treatment for most promising results. Bell's palsy usually has a good prognosis and patients will improve with outpatient therapy without conclusion.

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