

# Bell's Palsy: A case report

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## Abstract:

*Bell's palsy is a lower motor neuron peripheral palsy where there is inflammation & demyelination of the facial nerve that results in muscle weakness on one side of the face. Affected patients develop unilateral facial paralysis over one to three days with forehead involvement and no other neurologic abnormalities. Usually related to viral infections—mainly Herpes simplex virus. Symptoms typically peak in the first week & sometimes resolve gradually. In this article a case of a 38 years old male with facial paralysis for over a month is presented, included clinical presentations, diagnosis, treatment, & prognosis.*

**Keywords:** Bell's palsy, Corticosteroids, Antivirals

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## Introduction:

Bell's palsy is an idiopathic, acute peripheral-nerve palsy involving the facial nerve, which supplies all the muscles of facial expression. Bell's palsy is named after Sir Charles Bell (1774–1842), who first described the syndrome along with the anatomy and function of the facial nerve. The annual incidence of Bell's palsy in Europe is 10 cases per 100,000 persons, with equal numbers of men and women affected. There is no predilection for either side of the face. Bell's palsy has been described in patients of all ages, with peak incidence noted in the 40s. It occurs more commonly in patients with diabetes and in pregnant women. Patients who have had one episode of Bell's palsy have an 8 percent risk of recurrence.<sup>1,2</sup>

Patients with Bell's palsy typically complain of weakness or complete paralysis of all the muscles on one side of the face. The facial creases and nasolabial fold disappear, the forehead unfurrows and the corner of the mouth droops. The eyelids will not close and the lower lid sags; on attempted closure, the eye rolls upward (Bell's phenomenon). Eye irritation often results from lack of lubrication and constant exposure.<sup>3</sup> Tear production

decreases; however, the eye may appear to tear excessively because of loss of lid control, which allows tears to spill freely from the eye. Food and saliva can pool in the affected side of the mouth and may spill out from the corner. Patients often complain of a feeling of numbness from the paralysis, but facial sensation is preserved.

A patient with an acute onset of unilateral facial weakness most likely has Bell's palsy. A careful history of the onset and progress of paralysis is important because gradual onset of more than two weeks' duration is strongly suggestive of a mass lesion.

Treatment of Bell's palsy is controversial, because as many as two-thirds of patients recover spontaneously. Corticosteroids alone or associated with antiviral agents have been recommended.<sup>4</sup> Adour<sup>8</sup> reported that patients with Bell's palsy treated with acyclovir and prednisone experience a more favorable recovery and less neural degeneration than patients treated with placebo plus prednisone. The favorable response to the treatment of Bell's palsy with acyclovir–prednisone supports the theory that reactivated HSV causes neuritis.

## Case Report:

A 38 years old male patient presented with right hemi facial palsy reported to oral & maxillofacial surgery Department of TMSS medical college Dental Unit, Bogra with the complaints of sudden weakness of the right side of the face with inability to close right eye & lack of sleep since past 1 month.(Figure-1). Patient gave a history of overnight exposure on extreme cold & denied any type of facial trauma or systemic alteration.

Clinical examination revealed restricted facial asymmetry, dropping of the corner of the mouth, inability to close his right eye (Figure-1), absence of wrinkling of the right side

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of the forehead (Figure-2), obliteration of the nasolabial fold of the affected side, restricted movement of the both upper & lower lips (Figure-3).

Based on the clinical symptoms & absence of radiographic & laboratory findings provisionally diagnosed as Bell's Palsy & treated with corticosteroids 60 mg per day in a 21

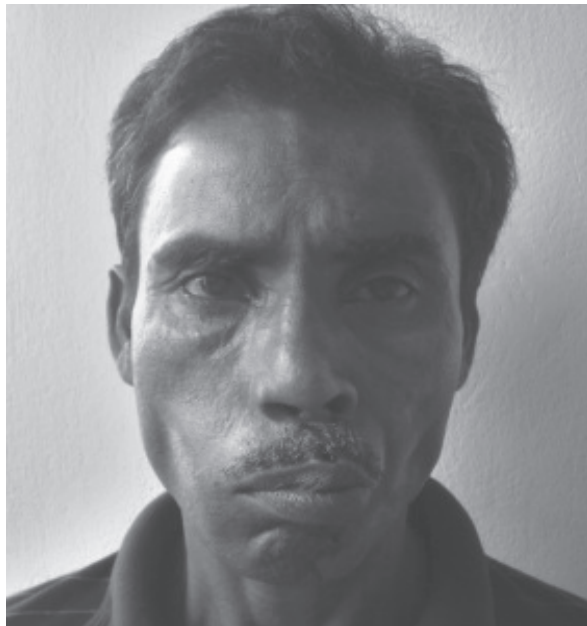
days tapering course, vitamin B complex every 12 hourly & Artificial tears during the day. He was advised to warm water compress & to keep the left eye closed with sleep mask during the night to avoid conjunctival dryness. After 21 days of medication, the facial palsy disappeared. The patient was examined two weekly then after 6 months (Figure-4) & 1 year & no sign of recurrence was noted.



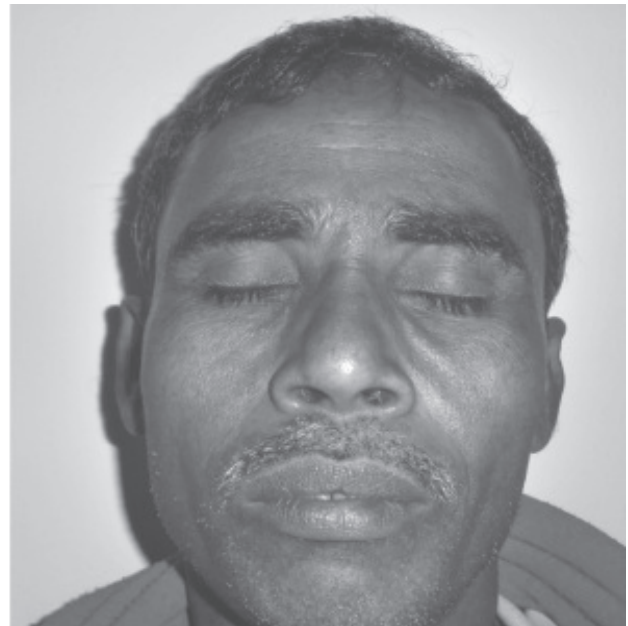
**Fig.-1:** Facial asymmetry with open right eye.



**Fig.-2:** Absence of wrinkling of the right side of the forehead,



**Fig.-3:** Restricted movement of the both upper & lower lips



**Fig.-4:** Complete recovery

**Discussion:**

Many pathologies can be included in the differential diagnosis of Bell's palsy: unilateral central facial weakness, Ramsay Hunt syndrome, Lyme neuroborreliosis, tumours, diabetes mellitus, sarcoidosis, weight loss, visual changes, Vertigo and weakness or numbness<sup>4</sup>

Diagnosis of Bell's palsy depends on clinical signs, symptoms and evaluation to exclude other possible causes of facial paralysis.

Laboratory investigations and imaging are carried out to detect the origin of the paralysis: lumbar puncture, IgG and IgM antibody tests and cerebral spinal fluid cell count to detect intracranial pressure and inflammation; magnetic resonance imaging and computed tomography to locate an intracranial lesion or hemorrhage; Lyme titre test to rule out Lyme disease; and acetylcholine-receptor antibody test for myasthenia gravis.<sup>5</sup>

Patients should be advised to use artificial tears to keep the eyes moist and prevent exposure keratitis. During the day, sunglasses are indicated, and dirty, noxious fumes should be avoided. During sleep, an ophthalmic ointment should be used.<sup>4</sup>

Our patient enjoyed complete recovery after 4 weeks, but clinicians should be aware of possible morbidities. For example, some patients experience lasting facial weakness. Factors associated with a poor prognosis include advanced age, hypertension and impairment of taste and pain other than in the ear. Bell's palsy does not usually recur; however, if it does, particularly bilaterally, further investigation is required to rule out other causes of facial paralysis such as myasthenia gravis, sarcoidosis and lymphoma.<sup>6</sup>

Patients who have persistent clinical signs without improvement in facial paresis after 4 weeks, involvement of other cranial nerves or a second episode of palsy require further investigation.<sup>8</sup> A detailed history and thorough clinical examination should be carried out in those patients. Early recognition of signs and symptoms inconsistent with Bell's palsy is important to avoid misdiagnosis. If the patient does not recover within the expected timeframe, imaging must be performed, such as computed tomography or magnetic resonance imaging. Current imaging techniques may reveal occult lesions of the

temporal bone, internal acoustic canal or cerebellopontine angle, for example.<sup>7</sup>

Many clinical trials have evaluated acyclovir with or without prednisone for the treatment of Bell's palsy: Adour<sup>8</sup> and De Diego<sup>9</sup> for example, using a facial paralysis recovery profile. Studies evaluating the efficacy of antiviral agents for the treatment of Bell's palsy show conflicting results. As each trial has used different treatment modalities, facial nerve recovery scales and doses of acyclovir, and some have involved only a small number of patients, it is difficult to compare their results and verify the effectiveness of acyclovir.<sup>6</sup> In the mentioned case Antiviral was avoided due to lack of evidence of viral infection relevancy.

Considerable controversy remains over the use of steroids for Bell's palsy in adults, and there is even less evidence for using steroids to treat Bell's palsy in children.<sup>10</sup> Children are more vulnerable to the side effects of corticosteroids, particularly their effect on growth, immunity and adrenal suppression. A side effect of corticosteroids unique to children is growth suppression, which can be reduced by prescribing the medication on alternate days.<sup>11</sup> In this case described above, we preferred steroids associated with vitamin B complex & to avoid Antiviral agents & the outcome was satisfactory without any complication.

**Conclusion:**

Differential diagnosis is essential to guide treatment in Bell's palsy. Although its etiology is still unknown, viral infection, vascular ischemia and autoimmune disorders have all been postulated as possible mechanisms. If viral infection is suspected antiviral drugs should be started for patients who reported within 4 days of occurrence of symptoms. Special attention should be given to children with respect to steroid prescription. Dental surgeons, especially those who deal with children, should be aware of this disorder.

**References:**

1. Gilden DH. Clinical practice. Bell's palsy. *N Engl J Med.* 2004;351:1323–31.
2. Morris AM, Deeks SL, Hill MD, Midroni G, Goldstein WC, Mazzulli T, et al. Annualized incidence and spectrum of illness from an outbreak investigation of Bell's palsy. *Neuroepidemiology.* 2002;21:255–61.

3. Peitersen E. Bell's palsy: the spontaneous course of 2,500 peripheral facial nerve palsies of different etiologies. *ActaOtolaryngol Suppl.* 2002;4-30.
4. Ahmed A. When is facial paralysis Bell palsy? Current diagnosis and treatment. *CleveClin J Med* 2005; 72(5):398-401, 405.
5. Hsu CS, Closmann JJ, Baus MR. Idiopathic unilateral cranial nerve VI palsy: a case report and review of the literature. *J Oral MaxillofacSurg*2008; 66(6):1282-6.
6. Alberton DL, Zed PJ. Bell's palsy: a review of treatment using antiviral agents. *Ann Pharmacother*2006; 40(10):1838-42. Epub 2006 Sep 12.
7. Alaani A, Hogg R, Saravanappa N, Irving RM. An analysis of diagnostic delay in unilateral facial paralysis. *J LaryngolOtol*2005; 119(3):184-8.
8. Adour KK, Byl FM, Hilsinger RL Jr, Kahn ZM, Sheldon MI. The true nature of Bell's palsy: analysis of 1,000 consecutive patients. *Laryngoscope* 1978; 88(5):787-801.
9. De Diego JI, Prim MP, De Sarriá MJ, Madero R, Gavilán J. Idiopathic facial paralysis: a randomized, prospective, and controlled study using dose prednisone versus acyclovir three times daily. *Laryngoscope* 1998;108(4 Pt 1):573-5.
10. Atzema C, Goldman RD. Should we use steroids to treat children with Bell's palsy? *Can Fam Physician* 2006; 52:313-4.
11. Deshmukh CT. Minimizing side effects of systemic corticosteroids in children. *Indian J Dermatol Venereol Leprol* 2007; 73(4):218-21.