

CASE REPORT

Bilateral Facial Paralysis - Can it be Bell's?

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Objective: Bilateral simultaneous facial palsy is an extremely rare clinical entity. The uneven manifestation of the two sides may make it very difficult to identify a partial paralysis on one side resulting in an underestimation of the true incidence. Here we present a representative case and discuss the most common causes of bilateral facial palsy as they relate to this particular case.

Intervention: Because of the clinical presentation compatible with Bell's palsy and exclusion of other possible causes she was diagnosed as B/L Bell's palsy and valacyclovir with prednisone was advised. She improved on this regimen and is under regular follow up.

Conclusion: Diagnosis workup for a patient presenting with bilateral facial paralysis depends upon the history and careful clinical examination. Bell's palsy must be considered as a diagnosis in bilateral facial palsies after excluding serious underlying medical conditions.

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The facial expressions of human beings fascinate because they convey both the lowest, most bestial pleasures and the strongest and gentlest emotions of the spirit. With these words, Charles Bell described the importance of peripheral facial paralysis ^[1]. Facial deformity and the apparently drunken speech are not only embarrassing but make work virtually impossible by making sensible communication difficult. Bilateral simultaneous facial palsy is an extremely rare clinical entity. Simultaneous onset is defined as the involvement of the opposite side within 30 days of the onset of the first side. It is most often a special finding in a symptom complex of a systemic disease, occurring in 0.3% to 2.0% of facial palsy cases^[2]. The incidence is approximately one per five million per year^[3]. The uneven manifestation of the two sides may make it very difficult to identify a partial paralysis on one side resulting in an under-estimation of the true incidence^[4]. Unlike the unilateral form, bilateral facial palsy seldom falls into the idiopathic or Bell's category^[2]. It often indicates a serious underlying medical condition

and may be a medical emergency. Its occurrence does not rule out the possibility of Bell's palsy^[5]. Bell's is responsible for approximately 20 per cent of cases of bilateral simultaneous facial nerve palsy ^[6].

Case Report

A 42-year female presented with fever on and off since 5 days with complaints of facial weakness which progressed to bilateral facial paralysis (over a 48-h period). She also complained of nausea, and everything tastes like butter. She also states that now things "sound louder" as compared to earlier. There was no epiphora or ear ache or other associated complaints. On inspection there was flattening of the forehead and nasolabial fold but there was no facial asymmetry. She was unable to smile and could not close her eyes completely on both sides and on attempted eye closure Bell's phenomenon was positive (Figure 1). She also complained of bilateral headaches, mild to moderate in intensity and insidious in onset, with no diurnal variation. No precipitating or reliving

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factors regarding headache was found and there was no associated neck rigidity. She reported increased fatigue, but denied weight loss or night sweats. She denied focal weakness, paresthesias, vertigo, no other neurological deficit, chronic cough, Gastro intestinal upset, or burning during micturition.



Figure 1. Illustrates bilateral incomplete closure of eyes with bell's phenomena.

There was no lymphadenopathy present. There was also no history of recent travel; no use of tobacco; alcohol; or illicit substances. Complete blood count were within normal limits: general blood picture showed no immature cells, CSF Examination, Pure Tone Audiometry (PTA), chest radiography, computed tomography (CT) scan head showed no abnormality. (Venereal Disease Research Laboratory) test and HIV antibody test was negative.

Because of the clinical presentation compatible with Bell's palsy and exclusion of other possible causes she was diagnosed as B/L Bell's palsy and valacyclovir 500 mg orally three times a day with prednisone 1 mg/kg/d, followed by a taper was advised. She improved on this regimen and is under regular follow up.

Discussion

Unlike unilateral facial paralysis, where the cause is mostly idiopathic (over 50%), bilateral facial palsy is less often idiopathic (under 20%)^[7]. The majority of

patients with bilateral facial palsy have Guillain-Barré syndrome (GBS), sarcoidosis, Lyme disease, meningitis (neoplastic or infectious), or bilateral neurofibromas (in patients with NF type 2). In a review of reported cases over a period of 10 years, Teller and Murphy show that Lyme disease is responsible for 36% of the cases for facial diplegia. GBS (5%), trauma (4%), sarcoidosis (0.9%), and AIDS (0.9%) are other causes^[13]. Many of the diseases associated with the presence of bilateral facial palsy are potentially life-threatening and therefore the condition warrants urgent medical intervention^[4].

The most common infectious cause of facial diplegia is Lyme disease, caused by *Borrelia burgdorferi*^[8]. Facial nerve palsy has been found in 11% of patients with Lyme disease, being bilateral in 30-40 per cent of these cases^[6,15]. It commonly begins in the summer with a skin lesion, erythema migrans. The diagnosis is made by an immunologic assay using antibody titers against the spirochete. Treatment with an antibiotic should be started immediately and not delayed until there is serological confirmation. There was no history of tick bite and travel to endemic region so the possibility of Lyme's disease was ruled out.

GBS or ascending inflammatory demyelinating polyneuropathy presents as a progressive development of palsy of the voluntary muscles of the legs, arms, trunk, and face. The most commonly affected cranial nerves are IX, X, and VII. In 27% to 50% of the cases, the facial nerve is involved^[9]. 50% of the patients with a facial paralysis have bilateral involvement^[10,11]. A normal CSF finding and no other neurological sign and symptoms refutes the diagnosis of GB syndrome in this case.

Involvement of the facial nerve is a relatively common neurological finding in sarcoidosis. However, bilateral involvement is very uncommon and is even more unusual as the presenting complaint^[12,13,14]. Meningitis, myelopathy, optic neuropathy, cerebral mass lesions, and polyneuropathy can also be manifestations of neurosarcoidosis. Diagnosis is made by blood analysis, biopsy of the affected organ, and enlargement of lymph nodes on chest CT. With

neurosarcoidosis, the CSF protein level is usually elevated whereas the CSF glucose level is usually within the reference range or slightly low. A normal CSF finding with no other neurological deficit and with no evidence of lymphadenopathy disqualified the case as neurosarcoidosis.

Clinical features of Bell palsy that may help distinguish it from other causes of facial paralysis include sudden onset of unilateral facial paralysis (less than 48 hours), absence of signs and symptoms of CNS disease, and absence of signs and symptoms of ear or posterior fossa disease. Bell palsy is thought to be caused by oedema and ischemia resulting in compression of the facial nerve in its labyrinthine segment of the fallopian canal. The cause of the edema and ischemia is still being debated however, most authors believe that the herpes simplex virus (HSV) is the most likely cause^[16-18]. Adour found only 3 bilateral cases in a consecutive series of 1,000 patients with Bell's palsy^[19].

Diagnosis workup for a patient presenting with bilateral facial paralysis depends upon the history and careful clinical examination. The history should include time sequence of onset, prior history of facial paralysis, recent viral or upper respiratory tract infection, recent camping or hiking, otological symptoms, change in taste, facial numbness, vesicles, or recent immunization. The first priority in the workup is to rule out a life-threatening disease such as leukaemia or GBS. If these are suspected, the patient should be admitted to the hospital for close observation. The physical examination should be complete with emphasis on the neurological and head and neck portions of the exam. Workup should include complete blood count, Venereal Disease Research Laboratory test, HIV test, blood glucose, erythrocyte sedimentation rate, and Lyme titer.

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