

(CASE REPORT)



BELL'S PALSY in a girl child: A rare case report with review of literature

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Abstract

Bell's Palsy is a unilateral acute peripheral facial nerve palsy of sudden onset and unknown aetiology. Bell's Palsy is common in adults but rarely seen in children. Inability to close the unilateral eye, drooping of corner of mouth, with drooling of saliva and unable to smile on affected side are few important clinical features of Bell's Palsy.

Management of Bell's Palsy in children is basically symptomatic only. Multivitamins with light physiotherapy are all that are helpful to manage most of the Bell's Palsy cases in children. Overall, Bell's Palsy in children is self-limiting with early and complete recovery.

Keywords: Facial nerve; Hemiparesis; Steroids; Facial palsy; Multivitamins; Children

1 Introduction

Bell's Palsy is an acute peripheral facial nerve palsy involving, facial, the seventh cranial nerve. It is of unknown aetiology has a sudden onset and is mainly unilateral. Bell's Palsy causes hemiparesis or a complete paralysis of muscles of facial expression of one side of the face.

3/4th of peripheral facial nerve palsy are idiopathic with an unknown aetiology, also known as primary peripheral facial nerve palsy. Other 1/4th, have an underlying aetiology and are termed as secondary peripheral facial nerve palsy. Few etiologic factors for the secondary form include genetic reasons, certain parotid and cranial tumors, temporal bone fractures, viral and other infections, Ramsay Hunt syndrome and others.

Bell's Palsy commonly affects children in the age group of seven to fifteen years old. Cases of Bell's Palsy in 2year old child also has been reported. Clinical features of Bell's Palsy includes inability to close affected side eye completely, unilateral absence of nasolabial fold, drooping of angle of the mouth, drooling of saliva, accumulation of food in the vestibule and facial asymmetry.

An important aspect in the management of Bell's Palsy in children is well informed, counselling of child and the parents, regarding the disease and its prognosis.

Multivitamins, steroids, anti-virals, and physiotherapy are generally a part of the management of Bell's Palsy depending on the case.

This case report presents a case of Bell's Palsy in a 7 year old girl child. She was treated with multivitamins and physiotherapy. The child's condition recovered completely in one and a half months.

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2 Case report

A seven year old girl child with her parents reported to the Department of Oral and Maxillofacial Surgery CDSH, Rau Indore, India, with a chief complain of inability to completely close the right eye. The parents reported that the child was not able to close her right eye completely since few days. This finding was observed by the parents 4 to 5 days back that the girl child had a partially open right eye while sleeping in the night. This feature persisted all the time for the next few days also. They had consulted a local doctor and was referred to our set up.



Figure 1 A Pre-Op: Incomplete closure of right eye



Figure 1 B Pre-op

The girl child was well-built conscious and healthy without any medical history. Patient refused for any history of trauma in the past.

2.1 Investigation and Diagnosis

Clinical examination - Diagnosis of facial nerve palsy

On Extra Oral Examination the child could not close her right eye completely. The right nasolabial fold was less prominent. Upon smiling the right corner of the mouth didn't raise up. An MRI of the brain was advised for the patient. The child was prescribed vitamin B12 tablets once a day and was advised to start it immediately. Physiotherapy of facial muscles was also advised to be done regularly.

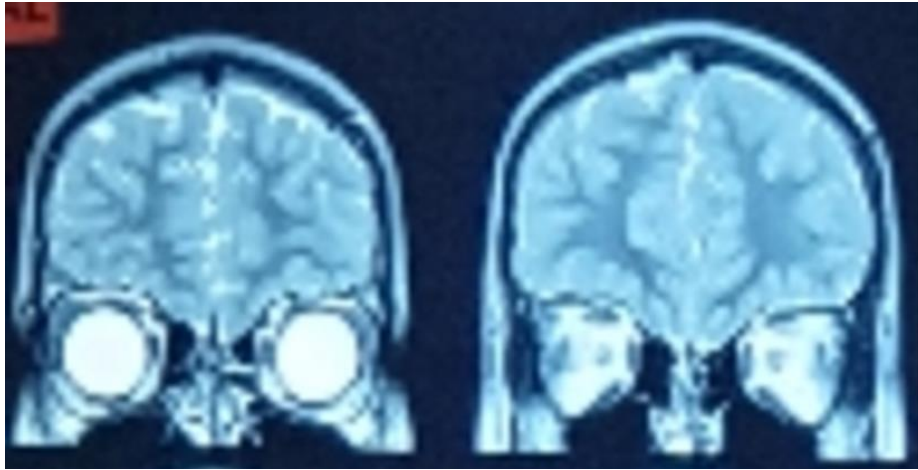


Figure 2A MRI Scan

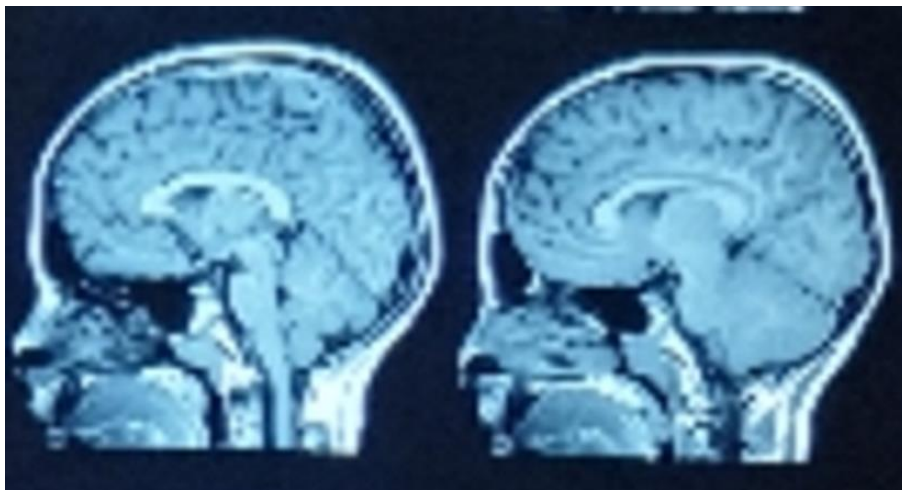


Figure 2B MRI Scan

2.2 Treatment

The child was prescribed vitamin B12 tablets once a day and was advised to start it immediately. Physiotherapy of facial muscles was also advised to be done regularly.



Figure 3A 10day follow-up: Complete eye closure



Figure 3B 10 Day follow-up: Improved smile



Figure 4A 1month follow-up: Complete Recovery



Figure 4B. 1month follow-up: Complete Recovery

Patient reported back for a follow-up after ten days. The child was now able to close right eye in a much better way. Medication was continued for another 3 weeks. After one to one and a half months the girl child showed drastic improvement in her condition. She was completely cured of all signs and symptoms. Parents were now relieved and felt satisfied with the treatment. The girl child was kept on a follow-up for 2 to 3 months. She is now well and has completely recovered.

3 Discussion

Bell's Palsy is a peripheral facial nerve palsy of facial the seventh cranial nerve. Bell's Palsy was named after Scottish anatomist Sir Charles Bell. He described Bell's Palsy as an acute mono neuropathy or a disorder affecting the seventh facial cranial nerve[1].

3/4th of peripheral facial nerve palsy is of unknown aetiology, also termed as primary or idiopathic. There is no known aetiology for this type of facial palsy. The other 1/4th of peripheral facial nerve palsy have known aetiology and termed as secondary. This secondary peripheral facial nerve palsy was first observed by N. A Friedrich in 1979 and constitute of only 25% of the total facial nerve palsies. Certain parotid and cranial tumours, forcep deliveries, infections as leukaemia, viral infections and their reactivation, mumps, rubella, certain syndromes, genetic factors, temporal bone fractures are few underlying etiological factors for secondary facial palsy[2].

Facial canal cross-sectional ratio in adults is (.46) and is (0.31) in children. While facial nerve exits from canal there might be compression of nerve leading to its entrapment and swelling. Bell's Palsy is less commonly seen in children because of lower facial cross sectional ratio[3].

In viral infections, sometimes there is reactivation of herpes simplex virus in geniculate ganglion which can lead to facial nerve entrapment and inflammation. This can also lead to Bell's Palsy. Bell's Palsy is commonly seen in children of age group 8 to 15 years, but there is no gender predilection reported. Bell's Palsy is rare in children below two years of age. One study, in one integrated health systems reported that the incidence of Bell's Palsy in children of 18 years or younger was 18.8 per lakh persons years in a five-year study[4].

One other study reports, that Bell's Palsy in paediatric population is rare with an incidence of approximately 6:1 in one lakh in children aged 1 to 15 years[5].

Among all the clinical features of Bell's Palsy, incomplete closure of the eye is one of the main concern. There is dryness of eyes which can lead to irritation, corneal ulceration and infection. Eye pad, cover type of protection should be advised most of the times especially when going out.

A proper evaluation of Bell's Palsy in children must include these factors [6]

- Bell's Palsy has a rapid onset within 72 hours or earlier
- Bell's Palsy should be diagnosed when no other etiologic factor is proved.
- Bell's Palsy is mainly unilateral with a very rare bilateral picture.
- Other etiologic factors for the secondary form can include certain tumours, trauma, infections, syndrome and genetic causes.
- Bell's Palsy in children is basically self limiting.

It is said that Bell's Palsy is thus a diagnosis of EXCLUSION[7]. After ruling out all etiologic factors, when there is no proved aetiology, the diagnosis of Bell's Palsy should be made. A facial nerve grading system given by House JW, Brackmann DE can also be used for grading the severity of Bell's Palsy[8]. One case of an adolescent girl with a history of acute onset of Bell's Palsy has been reported. It was thought to be primary form of Bell's Palsy. Further investigations were done and the girl was diagnosed with acute myeloid leukaemia. It was concluded that acute myeloid leukaemia was etiologic factor for the secondary form of Bell's Palsy in the girl child[9]. Management of Bell's Palsy is multifactorial. Managing Bell's Palsy involves

- Allay the apprehension of child and parents regarding the disease
- Early diagnosis and initiation of treatment whenever possible.
- Have a rapid and complete recovery.
- Minimise the possibility of incomplete resolution.
- Decrease or minimise chances of sequelae.

Earlier the Bell's Palsy gets diagnosed and is treated, better the results in treatment.

Primary or idiopathic form, which is the most commonly seen generally does not require any specific treatment and is mainly treated symptomatically.

Multivitamins, some physiotherapy helps to manage the primary form in the best way possible, achieving early and complete recovery.

Secondary peripheral facial palsy has an underlying aetiology and needs to be managed with medications, surgery and other modalities depending on the case.

Among medications steroids are said to be helpful in managing Bell's Palsy in children. In cases of inflammation and compression of facial nerve as it exits meatal foramen, steroids help to lessen inflammation and thus relieve the symptoms of Bell's Palsy.

Steroids also give best results when started at the earliest of onset of Bell's Palsy. Prednisolone 1-2mg/kg body weight for 10 days starting at 60mg/day followed by tapering the dose has shown to give good results[10].

Abdul Halin taskin et al in their study suggested that steroid therapy should be given to all paediatric patients with Bell's Palsy. They claim prescribing steroids in therapeutic doses has its own beneficial results and far outweighs the side effects of steroids[11].

Lee Y, SooYoo H, Yeo SG in their study question the benefit of steroids in managing Bell's Palsy in children. Their study concludes that effectiveness of steroids in treating Bell's Palsy is not proved[12].

One study of Hasan Alansari et al also is in accordance to the reports that steroids do not impact the resolution of Bell's Palsy, neither help accelerate its resolution in children[13].

Antivirals are prescribed in cases of viral reactivation of herpes simplex in geniculate ganglion. Acyclovir or other antivirals prevent the reactivation of the virus. Steroids when combined with Acyclovir further helps by lessening the inflammation of nerve thus giving complete recovery[14].

Gurkan Gubeiz in their study did not agree to the effectiveness of Prednisolone and acyclovir combination therapy in managing Bell's Palsy. They claimed that only severe cases respond well to antiviral and steroid combination therapy measure[15].

4 Conclusion

Cases of Bell's Palsy in children can be managed well symptomatically, with multivitamins and physiotherapy.

Overall, Bell's Palsy in children is self-limiting has an early and complete recovery with a good prognosis.

Compliance with ethical standards

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Disclosure of conflict of interest

No conflict of interest.

Statement of ethical approval

The present research work does not contain any studies performed on animals/humans subjects by any of the authors. The present work submitted for publication consideration is a CASE REPORT.

Statement of informed consent

Informed consent was obtained from the patient and her parents.

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