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Case Report

# **Case Study of Bell's Palsy**

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#### Abstract

Bell's palsy is a neuropathy involving the 7<sup>th</sup> cranial nerve also known as facial nerve. It is a condition that causes sudden weakness in the muscle on one side of the face. It is usually caused by traumatic, infective inflammatory or compressive condition of nerve. Acute inflammation and edema of cranial nerve can lead to compression and eventual ischemia. In this case study a 21 years' male patient was admitted to the hospital with complaints of deviation of mouth to left side, inability to close right eye, pain in anterior neck, difficulty in chewing food, increased headache developed fever spikes, increased pain around jaw. Patient was diagnosed with Bell's palsy and was treated with anti-viral agents, anti-pyretic and corticosteroids. Patient was discharged after relieving symptoms and clinical pharmacist have done patient counseling for better quality of life.

Keywords: Bell's palsy, Facial nerve, Idiopathic LMN, Anti-viral agents, Clinical pharmacist

### **INTRODUCTION**

Bell's palsy is a neuropathy involving the 7<sup>th</sup> cranial nerve own as facial nerve (Bell, 1821). It was 1<sup>st</sup> described by Dr. Charles Bell in 1821. Bell's palsy is usually unilateral and can be complete or partial which can be affected equally (Singhi et al., 2003). Bell's palsy is defined as idiopathic unilateral facial nerve paralysis, usually self-limiting (Ahmed, 2005). In most of the cases, the weakness is temporary and significantly improves over weeks (Grose et al., 1975). The weakness makes half of the face appear to droop (Belec et al., 1989).

### Etiology

Common viral cause of Bell's palsy is Herpes Simplex Virus (HSV) but there are several reports of other viruses such as Epstein bare virus, human immunodeficiency virus and Hepatitis B Virus involved in with similar presentation (de Diego et al., 2005).

#### Epidemiology

It affects 11.5-53.3 per 1,00,000 individuals a year across different populations which affects individuals across multiple ages and both sexes (Doner et al., 2000). The

incidence increases with age (Peitersen, 2002). Familial inheritance found in 4-14% of cases. The Incidence of Bell's Palsy reaches a maximum between ages 15-45 years, the disease is significantly less common below the age of 15 years and above the age of 60. The risk of bell's palsy is increased in diabetes, upper respiratory tract infection ad pregnancy (Tovi et al., 1986). In December 2020, the U.S.FDA recommended that recipients of Pfizer and moderna COVID-19 vaccines should be monitored for symptoms of Bell's palsy after several cases were reported among clinical trial participants though the data were not sufficient to determine a causal link (Higgins et al., 2020).

#### Signs and symptoms

Bell's palsy is characterized by a one sided facial droop that comes on within 72 hours (Baugh et al., 2013). The facial nerve controls a no of functions such as blinking and closing the eyes, smiling, frowning, lacrimination, salivation, flaring nostrils, raising eye brows, causing normal sounds to be perceived as very loud (hyperacusis & dysacusis) (Mumenthaler et al., 2006). The standardized treatment for Bell's palsy is based on following criteria:

• Bell's palsy (LMN 7th CN)

Physically diagnosed based on symptoms and laboratory diagnosed from MRI scan (DNS –Deviated Nasal Septum) towards left side is noted. Mild prominence of bilateral ventricles otherwise (Tables 1-3) (Moore et al., 2013).

 Table 1. Physically diagnosed based on symptoms and laboratory diagnosed from MRI scan (DNS –Deviated Nasal Septum) towards left side is noted.

Brand name	Generic name	ROA	Frequency	Dose	
Inj .Methyl predinisolone	Methyl prednisolone	IV	OD	60 mg	
T.Acyclovir	Acyclovir	5t/day	PO	400 mg	
Physiotherapy right side of the face					

• Pyrexia (diagnosed based on elevated temperature 102°F, Goal temp <98.6°F

Table 2. Diagnosed based on elevated temperature 102°F, Goal temp <98	.6°F
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Brand name	Generic name	ROA	Frequency	Dose	
Inj.Pcm	Paracetamol	IV	Stat	1 gm	
T.Dolo	Paracetamol	SOS	РО	650 mg	
Goal temp <98.6°F					

• Lagopthalmos (diagnosed based on complaints inability to close eyelid) which leads to corneal exposure and excessive evaporation of tear film.

Table 3. Diagnosed based on complaints inability to close eyelid) which leads to corneal exposure and excessive evaporation of tear film.

Brand name	Generic name	ROA	Frequency	Dose	
Refresh tear eye drops	Carboxy Methyl cellulose Sodium	1-2 drops	opth	2 <sup>nd</sup> hrly	
Taping of right eye before sleep					

# **CASE STUDY**

A patient of 21 years old male patient was admitted in Malla reddy heath city hospital, suraram, Telangana, India with complaints of deviation of mouth to left since morning, inability to close right eye lid since morning, pain in anterior neck, difficulty in chewing food, developed fever spikes within 2 days.

### H/O of present illness

Patient had a history of RTA trauma to head 4 years ago.

### Physical examination

At time of admission, his body temperature was 102°F, BP-100/60 mmHg, Pulse rate -82 beats/min and respiratory rate was 14/min, CNS -7<sup>th</sup> CN LMN, Abnormal reflexes.

### Therapy

Tab. Methyl Prednisolone which is a corticosteroid can reduce the swelling in the facial nerve. Tab. Acyclovirantiviral in combination with prednisolone benefit the patient. Refresh eye drops, patient should instill 1-2 drops in the eye 2<sup>nd</sup> hourly. Tab.Pan should be taken before breakfast to reduce the amount of acid produced in stomach. Tab. Dolo helps to reduce fever spikes that developed (Table 4).

S. No	Brand name	Generic name	ROA	Frequency	Dose
1	Inj.Methyl prednisolone	Methyl prednisolone	IV	OD	60 mg
2	T.Acyclovir	Acyclovir	5t/day	РО	400 mg
3	Inj .Pcm	Paracetamol	IV	stat	1 gm
4	T.Dolo	Paracetamol	Sos	PO	650 mg
5	Refresh tear eye drops	Carboxy Methyl cellulose Sodium	opth	2 <sup>nd</sup> hrly	1-2 drops
6	Inj. Pan	Pantoprazole	IV	OD	40 mg
7	IVF-2NS+Optineuron	Normal saline, optineuron	IV	OD	1amp
Taping of right eye before sleep and physiotherapy					
Monitor vitals and soft diet					

#### Table 4. Drugs with their therapy.

### DISCUSSION

Physician and Pharmacist should spend enough time to provide information to the patient about the disease condition along with the treatment modalities both and physiotherapy. In case of busy schedule of physician, the clinical pharmacist should take role to spend quality time with the patient for assessment of knowledge and attitude towards Bell's Palsy and to provide patient counseling by suggesting hand hygiene, personal protection, using mask, implementing information control protocols to reduce exogenous transmission by using appropriate probiotics if ward is provided with infectious disease cases. *Lactobacillus rhamnose Bifidobacterium* administration in dose of at least 5 colony forming units per day during hospital stay.

# CONCLUSION

Patient recovering from symptoms and condition improved. In this study patient vitals were normal and lubricating eye drops during day and eye ointment at night will helps the eye to keep moist. Physiotherapy on right side of face helps to relieve facial paralysis.

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