



Medical treatment for Bell's paralysis lagophthalmia

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Abstract

Bell's palsy or idiopathic facial paralysis is characterized by facial drooping on the affected half, due to malfunction of the facial nerve and lagophthalmia. The herpes simplex virus, which causes cold sores and genital herpes, is commonly found in people afflicted with Bell's palsy. Simplex can follow multiple nerve branches, while zoster tends to follow a single nerve branch, such as the first division of the fifth cranial nerve. According to the Mayo Clinic, evidence from clinical trials shows that treatment with steroids tends to be more successful than treatment with antivirals. Three cases were treated by medical treatment. Some considerations on medical treatment of three cases HZO with Bell's paralysis were reviewed. The results of medical treatment are reported herein.

Keywords: Bell's palsy, facial paralysis, medical treatment, lagophthalmia, herpes simplex virus

Introduction

Bell's palsy is characterized by facial drooping on the affected half, due to malfunction of the facial nerve (VII cranial nerve), which controls the muscles of the face. Named after Scottish anatomist Charles Bell, who first described it, Bell's palsy is the most common acute mononeuropathy and is the most common cause of acute facial nerve paralysis. The paralysis is of the infranuclear/lower motor neuron type [1].

Bell's palsy or idiopathic facial paralysis affects yearly about 40,000 people in the United States and it affects approximately 1 person in 65 during a lifetime. Its cause was unknown in most cases, but until recently, it has now been related to both Lyme disease and Herpes simplex. Simplex can follow multiple nerve branches, while zoster tends to follow a single nerve branch, such as the first division of the fifth cranial nerve. Herpes Zoster Ophthalmicus (HZO) which usually manifests as a unilateral painful skin rash of the trigeminal nerve occurs typically in older adults but can present at any age. It occurs after reactivation of latent varicella-zoster virus (VZV) present within the sensory spinal or cerebral ganglia. The herpes simplex virus, which causes cold sores and genital herpes, is commonly found in people afflicted with Bell's palsy [1].

Most people with Bell's palsy will recover fully in time, even without treatment, but current treatments reflect the belief that viral inflammation of the seventh cranial nerve causes the compression and resulting paralysis. For the inflammation and swelling of the nerve, corticosteroid like prednisone should be used, along with an antiviral medication such as acyclovir or valacyclovir if a viral infection was suspected. According to the Mayo Clinic, evidence from clinical trials shows that treatment with steroids tends to be more successful than treatment with antivirals. In this paper, some considerations on medical treatment of three cases HZO with Bell's paralysis were reviewed. The results of medical treatment are reported herein.

Two cases treated by steroid drug, the other was medical treatment for corneal ulcer post Bell's paralysis. Some considerations on medical treatment of three cases HZO with Bell's paralysis were reviewed. The results of medical treatment are reported herein.

2. Cases Report

Case 1: Lagophthalmia post Bell's palsy with medical treatment success

A 60-year-old woman who had no significant past medical history presented with a 3 years long history as follows: The first time was a previous 3 year ago, she had sudden onset of peripheral left facial weakness. It was to droop and it was hard for her to close her left eye. She also had difficulty in swallowing, drooling, excessive tearing. About 1 month later without treatment, all symptoms disappeared progressively. The second time was a previous 11 months; she relapsed of the left peripheral facial weakness. Bell's palsy reappeared when she waked up; she did not close her left eyes and had loss of her taste sensation. During about three to four weeks of treatment at a private GP with unknown drugs, she experienced steady progressive. One week prior to author's eye clinic admission she had 3rd recurrence of Bell's palsy.

At eye clinic: Ocular examination revealed the following: visual acuity 20/20 both eyes, intraocular pressure 18mmHg OD, 20mmHg OS. The upper lid of left eye caused upper eyelid to shorten and thus exposed 2/3 of the cornea and part of ocular conjunctiva. There was negative with fluorescein on cornea. The anterior chamber was clear. Fuduscopy: Normal. Laboratory finding included:

RBC=3,900,000/mm³ WBC=7,600/mm³. HIV=Negative. PCR herpes (+)

Normal chest X-ray and ECG

Diagnoses: 3rd recurrent Bell's palsy. VA both eyes=6/6. IOP=18mmHg. Treatment: Steroids: prednisolone dose for 3

weeks + acyclovir 800mg for 6 months Her appearance look like normal at 3 weeks and one year later (figure attach)



Fig 1: Lagophthalmia post Bell's palsy recovery with unknown medical treatment

A 9-year-old boy who had no significant past medical history presented with the first time was a previous 1 week ago, he had sudden onset of peripheral left facial weakness. It was to droop and it was hard for him to close his left eye. About 1 month later with treatment at health station of village, all signs and symptoms

disappeared progressively. He was referred to eye clinic for continuing treatment. He was initially treated with steroid and follow-up recurrences. For one year later, he has his appearance look like normal.



Fig 2: Lagophthalmia post Bell's palsy with corneal ulcer complication

A 96-year-old man suffered from corneal ulcer on left eye with a long time of lagophthalmia after facial paralysis. He had a previous 25 years for Bell's palsy. He did not take any treatment. His Bell's palsy did not recover. He is a vegetarian when he grown up.

On eye examination: RE=VA =6/12. Nothing abnormal detecting. LE= an irregular round corneal ulcer with 5mm in diameter cover subtotal cornea and fluorescein was positive. VA= Light Perception (+/-). IOP=15mmHg. Anterior chamber was not

observed. PCR herpes (+)

Treatment

Natural tear and pommade antibiotique for 1 week.

Corneal ulcer did not developed and corneal ulcer becomes corneal scar but VA was the same on clinic admission. (Figure attaches). In this case firstly is medical treatment to stopping corneal ulcer and secondly is surgical treatment included corneal graft after tarsorrhaphy cover corneal ulcer.

Table 1: classification and treatment of herpetic neuralgia

Acute herpetic neuralgia (AHN)	Post herpetic zoster Neuralgia (PHN)
<ul style="list-style-type: none"> ▪ AHN < 3 months ▪ prodrome 3 vesicles ▪ phase of recovery 	<ul style="list-style-type: none"> ▪ PHN: >3 months ▪ during: >3 month to year ▪ intermittent > stop
Treatment: MCC	PHN
<ol style="list-style-type: none"> 1. Anti-viral drugs: Acyclovir...7days 2. Prednisone 40mg/daily/2 weeks 3. Analgesics: narcotic & non narcotic 4. Block sympathetic drugs 	<ol style="list-style-type: none"> 1. Antidepressive drug: lualprambe 2. Aspirine. Capseine 3. Physiotherapy 4. Anticonvulsive drugs: carbamazepine

Steps of treatment for fast relief of symptoms:

1. Use Lacrilube (found at any drug stores or pharmacy) to help keep eye moisturized.
2. Eat garlic with olive oil (mash the garlic and mix it with the olive oil).
3. Use multivitamin complex with B vitamins (B1,B2,B6,B12).
4. Try to avoid milk.
5. Do a deep massage to the face.
6. Avoid exposure to the wind.
7. Exercise the facial muscles daily (smile, lift your eyebrow, try to whistle, close your eyes etc.).
8. Smile and pull infected side of face up to a normal smile and hold for 10 seconds. Repeat.
9. Put a heating pad on low and put it on infected side of face. Hold for 3 minutes then rest it for 3 min. Repeat.
10. Drink plenty of water.
11. Try acupuncture treatment (start with twice a week).

3. Discussion**3.1. Herpes Zoster Ophthalmicus (HZO) and HIV**

In Kenya a study of Haroon Awan, Henry Alada showed 98% of AIDS patients having ocular manifestations and 23 % of ophthalmic zona with HIV (+) in the age range 8 to 47 years old. Our case 1 and 2 is out of this age group. Ophthalmic zona may be a marker for AIDS [2, 3]. Diagnosis of typical zona is usually easy with the eruption of vesicles distributed along trigeminal nerve but in the atypical case is difficult and now with polymerase chain reaction (PCR) is a gold standard in diagnosis DNA of zona virus. The general practitioners, eye doctors should be cautious in atypical cases of zona, as well as particularly in the phase of pre-eruption of vesicles because of transmission both zona and HIV. In these 3 patients HIV were negative.

3.2 Lagophthalmia

Bell facial paralysis is of the infranuclear/lower motor neuron type. Most people with Bell's palsy will recover fully in time, even without treatment, but current treatments reflect the belief that viral inflammation of the seventh cranial nerve causes the compression and resulting paralysis. For the inflammation and swelling of the nerve, corticosteroid like prednisone was used, along with an antiviral medication such as acyclovir or valacyclovir if a viral infection was suspected. According to the Mayo Clinic, evidence from clinical trials shows that treatment with steroids tends to be more successful than treatment with antivirals. Lagophthalmia caused around of all cases of 40% keratitis, 40% of uveitis cases, as well as necrosis retinitis, secondary glaucoma, ocular motor nerve palsies, cataract, and scleritis [4].

In case 1: Lagophthalmia caused by with paralysis of peripheral VII nerve for constricted muscles of upper lid and without paralysis of elevator muscle and was relapsed 3 times: Antiviral drugs were taken and associated with steroids may be helpful in relief all symptom in swallowing as well as eye lid closing.

In case 2: Patient was treated with unknown drug and lagophthalmia had progressively recovered.

In case 3: Because lagophthalmia a long time, this resulted in severe corneal ulceration. After treatment, corneal ulceration became big scar that should be done a perforated corneal grafting latter [4, 6]. Partial tarsography should be done first in order to decrease the evaporating of eye liquefilm in case 3. Upper lid reconstruction should be done later [5]. Antiviral drugs were prohibitively expensive and did not used in this case [5, 6].

Bell's palsy lagophthalmia with failure of medical treatment should be treated with surgery [7].

3.3. Others problems with ophthalmic zona

* Strabismus: may be caused by the paralysis of ocular muscles need to be surgical correction [8].

* Cornea: The decreasing of corneal sensibility post herpetic zoster may reversible or irreversible because of corneal epithelial damages. Surgeries in these patients as glaucoma, cataract has to be warning. [1].

* Iris: The paralysis of constricted sphincter of iris may lead to dilation of pupil so-called atypical Argyl Robertson syndrome [1]. This case: pupil did not constrict one year later.

* For genetic problems with Bell's Palsy: should be detected but in 2 cases mentioned above did not showed relationship [9].

3.4. Prevention

Adults 60- year-old and over should have a single dose of zoster vaccine whether they have had herpes zoster or not. This vaccine has been shown to decrease the incidence of zoster [10].

4. Conclusion

In these cases, steroids associated with antiviral drugs were more effective with restored lagophthalmia and good vision as well as some satisfying results was reported here after one year follow-up. In case 3: a corneal ulcer due to lagophthalmia complication of Bell's palsy, a tarsography should be performed first as temporary treatment for preventing corneal damage before corneal graft. Some considerations included prevention was discussed in this paper for General Practitioners and Eye Doctors.

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