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Hepes Zoster ophthalmicus and medical treatment

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Abstract

This paper was reviewed Hepes Zoster ophthalmicus cases with and medical treatment. We reported 3 cases. In case 1, the patients took steroids although steroids were more effective. In our experience, steroids associated with antiviral drugs were more effective in case 1. In case 2 and 3, the patients have been used local steroids associated with acetazolamide with more effective. The 2 cases (case 2 and case 3) are elderly patient with HIV (-), without glaucoma surgery. In the case 2 was treated with steroid associated with acetazolamide. The case 3 was treated in the same case 1 but we added antiviral drug. All these patients have restored vision and have normalized intraocular pressure, and some satisfying results were reported here after one year follow-up. Some considerations on HZO were discussed in this paper for General Practitioners and Eye Doctors.

Keywords: Hepes Zoster ophthalmicus, Bell's palsy, glaucoma, vision, intraocular pressure, medical treatment

Introduction

Herpes Zoster Ophthalmicus is an ocular disease which usually manifests as a unilateral painful skin rash in a dermatomal distribution of the trigeminal nerve shared by the eye and ocular adnexa. HZO 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 [1]. Bell's palsy (facial palsy) is characterized by facial drooping on the affected half, due to malfunction of the facial nerve. Its cause was unknown in most cases, but it has now been related to both Lyme disease and Herpes simplex. Ocular involvement occurs in approximately 50% of HZ patients without the use of antiviral therapy [2]

HZO is caused by the varicella-zoster virus. HZO does not a fatal cause but a blind cause as well as prolonged pain lead to disturbance and difficulty in treatment for patients, and may be a marker for AIDS particularly in young person [3, 4, 5, 6]

We report 3 cases. The first is Bell's paralysis. The others HZO are zona secondary glaucoma. All of these cases had been used medical treatment and some satisfied results were reported. Some consideration on HZO is also reviewed [1, 7, 8]

Cases Report:

Bell's paralysis

The herpes simplex virus, which causes cold sores and genital herpes, is commonly found in people afflicted with Bell's palsy. Other viruses such as herpes zoster, which causes chicken pox and shingles, and Epstein-Barr virus, which causes mononucleosis, have also been associated with Bell's palsy

Case 1:

A 60 year-old female presented with a history as follow;

The first time: a previous 3 year ago, she had Bell's palsy by facial drooping on the affected half of left face and swallowing difficulty. About 1 month later without treatment, all symptoms disappeared progressively.

The second time: a previous 11 months, Bell's palsy appeared when she closed her left eye that was partially opened. She also had difficult in swallowing. During about three to four weeks of treatment at a private GP with unknown drugs, she experienced steady progressive.

One week prior to eye clinic admission she had 3rd recurrence of Bell's palsy.

At ophthalmologic 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.

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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: **Recurrent Bell's palsy 3rd time.**

Treatment: Steroid: prednisolone + acyclovir 800 mg /day for 3 weeks appearance look like normal (figure 1)



Zona Secondary glaucoma (ZSG) or Pigmented Glaucoma

ZSG commonly caused by uveitis with or without blockage pupil or obstructed trabecular meshwork. Accumulation of macrophages in severe inflammation over a short period of time may acutely obstruct the meshwork and result in transient elevation of intraocular pressure in association

with exercise of dilation of pupil [4, 5]. We reported 2 typical cases of zona secondary glaucoma that were elderly patient HIV (-), without glaucoma surgery here in. In 2 medical treatment cases: case 2 was treated with steroid plus acetazolamide and case 3 was treated with steroid, acetazolamide and acyclovir.

2.1 Case 2: (Figure 2)



A 59 years old, female, farmer. Ten days before she had suddenly headache then located at right frontal region and 2

days follow an eruption appeared on the same site in right eye accompanied with intensive pain. She was then treated

for ophthalmic zona by general practitioner. Her pain has not decreased during one week treatment until she was admitted author's provincial hospital.

* General examination: Height: 1.50 meter; Weight: 55kg; Pulse: 78/minute; Blood pressure: 110/70 mmHg; Temperature: 37 Celsius.

+ Ocular examination: Visual acuity: 6/9 = OD, 6/60 = OS.
+ Intraocular pressure (IOP): 17 mmHg = OD; 22 mHg = OS.

+ Left eye: Redness and edema of upper eye lid, difficulty in movement.

+ Injection of conjunctiva, epithelial and stroma of cornea: edema; shallow anterior chamber. Pupil: 6mm diameter; direct photomotor reflex to pupil: negative.

+ No observe posterior chamber. Ocular movement: normal. Right eye: no abnormality detected.

+ Paraclinic: RBC = 4000,000 cells/mm³; WBC = 7,800 cells/mm³ (Neutrophile: 72%, Lymphocyte: 28%); Bleeding time = 3'; Coagulation time = 6'. HIV = Elisa (-). Glycemia = 5,1 mmol/L.

+ Chest Xray: nothing abnormal detected.

* Diagnosis: Left eye = **Glaucoma post zona**.

* Treatment: Steroid (dectancyl suspension 1ml) periocular injection and measurement of IOP/ morning and afternoon /daily.

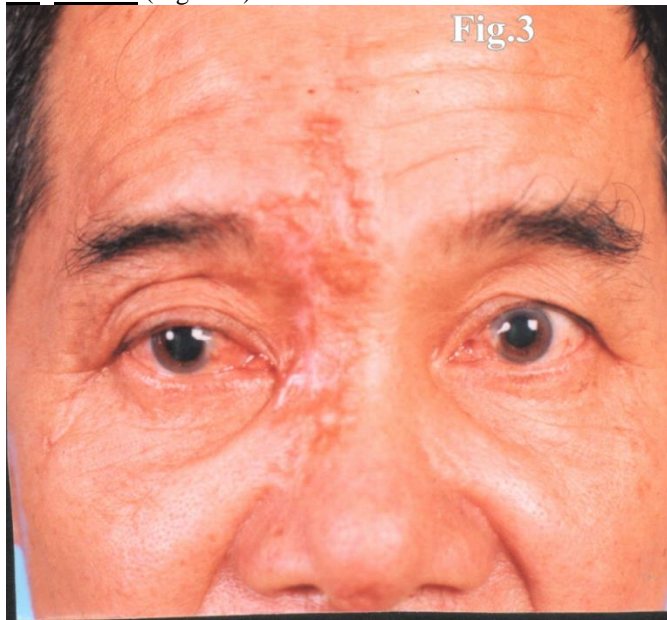
Results:

+ One day follow: Visual acuity: 6/18 = OS; IOP = 18 mmHg = OS.

Discharge (after one week treatment): Visual acuity: 6/12 = OS; 6/9 = OD; IOP = 17 mmHg OU.

+ One year after discharge: Visual acuity: 6/60 = OS; 6/12 = OD; IOP = 18mmHg OU.

1.2 Case 3: (Figure 3)



A 62 years old, male, farmer. Five days before he had suddenly headache then located at right frontal region and 2 days follow an eruption appeared on the same area in right eye accompanied with intensive pain and he was admitted author's provincial hospital.

* General examination: Height: 1.65 meter; Weight: 60kg; Pulse: 80/minute; Blood pressure: 120/70 mmHg; Temperature: 37 Celsius.

+ Ocular examination: Visual acuity: 6/60 = OD, 6/12 = OS.

+ Intraocular pressure (IOP): 18 mHg = OD; 24 mmHg = OS.

+ Right eye: Redness and edema of upper eye lid, difficulty in movement.

+ Injection of conjunctiva, epithelial and stroma of cornea: edema; Shallow anterior chamber; Pupil: 6mm diameter; Direct photomotor reflex to pupil: negative. Central opacity of cristalin capsule.

+ Ocular movement: normal. Left eye: Central opacity of crystalline capsule same as OD.

+ Paraclinic: RBC = 4.500,000 cells/mm³; WBC = 7,700 cells/mm³ (Neutrophile: 71%, Lymphocyte: 29%); Bleeding time=3'; Coagulation time = 5'. HIV = Elisa (-). Glycemia = 5,6 mmol/L. Chest Xray: nothing abnormal detected.

Diagnosis: Right eye = **Glaucoma post zona**.

Treatment: Acyclovir 200mg x 4 tablets/daily x 14 days + Acetazolamide 250mg x 4 tablets/day.

Results:

+ One day follow: Visual acuity: 6/12 = OD; IOP = 20 mmHg = OD.

Discharge (after one week treatment): Visual acuity: 6/9 = OD; 6/9 = OS; IOP = 17 mmHg OU.

+ One year after discharge: Visual acuity: 6/9 = OD; 6/9 = OS; IOP = 17mmHg OU.

Discussion

Bell's palsy lagophthalmia: Bell's palsy (facial 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 (disease involving only one nerve), and is the most common cause of acute facial nerve paralysis. The paralysis is of the infranuclear/lower motor neuron type. Bell's palsy affects about 40,000 people in the United States every year. It affects approximately 1 person in 65 during a lifetime. Until recently, its cause was unknown in most cases, but it has now been related to both Lyme disease and Herpes simplex.

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 has been 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 by with paralysis of peripheral VII nerve for constricted muscles of upper lid and without paralysis of elevator muscle. Partial tarsography should be done in order to decrease the evaporating of eye watering contributed the regulation of pressure of eye liquefilm in the case of Bell's palsy is not recover.

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 [6]

Zona secondary glaucoma (ZSG) or pigmented Glaucoma

ZG commonly caused by uveitis with or without blockage pupil or obstructed of trabecular meshwork. Accumulation of macrophages in this severe inflammation over a short period of time may acutely obstruct the meshwork and result in transient elevation of IOP in association with exercise of dilation of pupil [3, 4, 5]. Uveitis may be occurs after some day post herpetic zona, 40% of patients may have a long period 2 years with no symptom [5, 6] .

Case 2: 5 days after zona with moderate condition treatment with corticosteroid and inhibition of carbonic anhydrase drug.

In case 3, it was hardly to differentiate with trabeculitis. For treatment ZG, two problems were faced: treatment of zona and of glaucoma which consisted medical and surgical treatment. So antiviral drugs were were taken with inhibition of carbonic anhydrase drug and steroid in this case.

Our diagnosis of ZG depended on IOP. Two cases had a moderate elevation of IOP (22 & 28 & 24 mmHg) on hospital admission. [4. 5]

Local and general steroid has to use for treatment of herpetic uveitis but the risk for open-angle glaucoma (OAG) which should be warned. Some studies showed using local steroid from 4-6 weeks increasing IOP from 6-15 mmHg. Now OAG can be caused by gene TIGR (Trabecular meshwork inducible-glyucorticosteroid response gene) [7].

Others problems with ophthalmic zona

***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. Ophthalmic zona may be a marker for AIDS [1. 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 phrase of pre-eruption of vesicles because of transmission both zona and HIV. In the author’s unit, these patients were HIV negative. Our cases are out of this age group. Antiviral drugs were prohibitively expensive and were taken in case 1 and case 3 as well as associated with steroid may be helpful in relief all symptoms such as loss of sensation in swallowing; eye lid closing [2, 4, 5]

* **Lagophthalmia:** mentioned above [8].

* **Strabismus:** may be caused by the paralysis of ocular muscles need to be surgical correction [9].

* **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.

* **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.

HZO and post herpetic neuralgia .

HZO is not fatal but post herpetic neuralgia causes misery and distress. Treatment should start early at the time of HZO infection with antiviral agents, oral analgesics, and steroids [6].

Classification and treatment of herpetic neuralgia: [6]

<i>Acute herpetic neuralgia (AHN)</i>	<i>Post herpetic zoster neuralgia (PHN)</i>
* AHN < 3 months * prodrome → vesicles * phrase of recovery	* PHN: > 3 months * during: > 3 months to years * Intermittent → stop
Treatment: AHN	PHN
1. Antiviral drugs: Acyclovir...7days 2. Prednisolone 40mg/daily/2 weeks 3. Analgesics: narcotic & non narcotic 4. Block sympathetic drugs	1. Antidepressive drug: Imipramine 2. Aspirine, Capseine 3. Physiotherapy 4. nticonvulsive drugs: Carbamazepine

Conclusion

In case 1, the patients took steroids although steroids were more effective. In our experience, steroids associated with antiviral drugs were more effective in case 1

In case 2 and 3, the patients have been used local steroids associated with acetazolamide with more effective. The 2 cases (case 2 and case 3) are elderly patient with HIV (-), without glaucoma surgery. In the case 2 was treated with steroid associated with acetazolamide. The case 3 was treated in the same case 1 but we added antiviral drug. All these patients have restored vision and have normalized intraocular pressure, and some satisfying results were reported here after one year follow-up. Some considerations on HZO were discussed in this paper for General Practitioners and Eye Doctors.

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