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Case Report

Post Herpetic Neuralgia in an Older Adult. Case Report and Review of the Literature

Rozenek Miriam*, Aronson Sandra, Romani Adriana, RamiloMaria del Carmen, and Camera Luis

Department of Internal Medicine, Hospital Italiano de Buenos Aires, Argentina

***Corresponding author**

Rozenek Miriam, Department of Internal Medicine, Hospital Italiano de Buenos Aires, Argentina, Email: miriamrozenek@gmail.com

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Abstract

We feature the case of an 81 year old woman who presented ophtalmic herpes zoster in October 2015, and although she was correctly and promptly treated with Aciclovir and different analgesic medications, is still ongoing a postherpetic neuralgia 18 months later. She still experiences severe pain which very much affects her life quality.

We reviewed the literature and updated the topic of post herpetic neuralgia, its diagnosis, management, prognosis and prevention.

CASE REPORT

Eighty one year old woman, heavy cigarette smoker, Type II Diabetes, dyslipidemia, glaucoma, anticoagulated for chronic atrial fibrillation.

On October 2015, she suddenly felt an acute pain in her right eye ball. She asked for a consultation immediately, she was seen by two ophtalmologists, and given different eye drops. None helped. Only three days later some blisters appeared on the right forehead. She was then prescribed with oral Aciclovir 800 mg every 4 hours, 5 times daily, plus local Aciclovir cream, and non-steroidal painkillers.

The first eye examination showed: right bipalpebral edema, and blisters mostly on the upper eyelid. Slit-lamp examination: Right eye (RE): mild conjunctival congestion, no papillae, no secretion, transparent cornea with slight diffuse inferior perillimbicsuperficial punctate keratitis between hours 5 and 7.Intraocular pressure (IOP): RE: 18mmHg. Left eye (LE): 12mmHg.

She went on asking for consultation on a daily basis because of an unbearable pain, and was found to have a local infection, so she was prescribed oral Cephalosporins, which she took for a week; and additional eye drops for her glaucoma (which got worse), eye tears, and local steroids.

As the pain got worse, she also visited a healer and had Indian ink put on the crusts (three months after the beginning of the disease).

She also visited her physician, pain specialists and the emergency room for forty six times, till March 2017. Her complaining was always severe and incapacitating pain localized mainly within the eye and forehead.

She was sequentially prescribed with oral non steroids, steroids, tramadol, gabapentin, carbamazepin, duloxetin, metadone, and all the possible combinations between them. She used virtually every pain killer available in our country. The pain got sometimes better, but is still on today, March 2017 (that is to say 18 months from theonset of the rash). Even these days, she still experiences severe pain which very much affects her life quality. She is still using medication and non pharmacological methods such as acupuncture and other techniques applied by healers.

COMMENTS

Herpes zoster (HZ) is caused by reactivation of the Varicella Zoster virus (VZV). It affects peripheral nerves and causes painful skin and nerve lesions. The virus remains dormant in sensitive ganglia. Once reactivated, the virus moves along sensitive fibers up to the skin area they innervate. The virus causes direct inflammation and tissue damage, which is the underlying mechanism of neuralgic pain associated with HZ.

This reactivation triggers both, cellular and humoral immune response [1]. The cellular response is key in the protection of the disease, when it declines an appropriate scenario for the development of the episode is created. The episode itself works by stimulating cellular immunity, as if it were a natural booster that protects the patient from new episodes. The reactivation usually occurs most often in the elderly, or due to immune-suppression (HIV, cancer, corticosteroid chronically taken, etc).

The recurrence of HZ is uncommon, only occurs between 1 and 5% of patients [2,3].

Both the incidence and severity of the episodes increase with age [4,5]. It is estimated that 20% -35% of people will develop HZ during their lifetime [6,7].

Zoster usually presents as a blistered rash, unilateral, involving one to three dermatomes at the most [8]. The incidence and severity of the episodes increase with age. It is estimated that 20% -35% of people will develop HZ during their lifetime, with an incidence from 1.5 to 4.0 cases per 1000 people per year [9], peaking to 11 cases per 1000 people per year in their ninth decade of life [10]. Our working group found an incidence in elderly people in Argentina of 3.5 cases per 1000 people per year in the population between 60 and 64, to 6.6 cases per 1000 people per year in older than 85 years [11].

In most cases the diagnosis is clinical, although sometimes antigen detection techniques such as immunofluorescence, or detection of viral DNA by PCR [12].

Complications of HZ can include infections, central nervous system affection, nerve palsies, almost every single ophtalmic disorder, and post herpetic neuralgia (PHN), which, although is non-life threatening, may be associated with an important loss of autonomy, poorer quality of life, and a significant cost for both the patient and the healthcare provider [7].

Neuralgic pain might develop before the rash, or during the acute phase of the disease. Typically 10% of those who experience acute pain, will still have it at one month following the rash onset. Post-herpetic neuralgia (PHN) is a direct consequence of the damage caused by VZV on the peripheral nerve and one of the most frequent complications in the elderly [13].

POST HERPETIC NEURALGIA

PHN is conventionally defined as the persistence of pain beyond 30, 60 or 90 days of eruption [14]. It may last for months and even years as in the case described above.

PHN is the most frequent chronic complication of HZ and the most common neuropathic pain resulting from infection [15].

The incidence and prevalence of PHN vary depending on the definition used, but approximately a fifth of patients with HZ report some pain at 3 months after the onset of symptoms, and 15% report pain at 2 years [16,17].

PHN causes considerable suffering and results in a considerable health care burden. Patients with PHN have reduced quality of life, physical functioning and psychological well being [18].

The pharmacological management of this entity is of variable efficacy and little response in most cases [19].

ASSESSMENT OF THE PATIENT WITH PHN

Features of pain and associated sensory perturbations (itching, paresthesias, allodynia, burning, etc) should be assessed. Pain associated with PHN may occur continuously, paroxystically (as electric shock like pains), and evoked sensations that are pathological amplifications of responses to light touch and other innocuous stimuli.

There are several questionnaires available that "measure"the quantity of pain, and its interference in daily life activities, such as the Zoster Brief Pain Inventory [20].

Physical examination should include a comparison of sensory function in the affected dermatome with that on the contralateral side. Loss of sensory function in response for both mechanical and thermal stimuli, as well as sensory amplifications to normal stimuli, are frequently found in patients with PHN. Generally no further examination is required.

MANAGEMENT OF PHN

As seen in the patient discussed above, pain management is tough. It may require several drugs, for a great amount of time. The objective of the treatment of PHN is primarily pain alleviation and improvement of the quality of life [21].

It is important to monitor the effect of interventions on pain intensity, and on adverse effects rose by the use of drugs.

Antiviral therapy in the early acute phase significantly reduces the severity of infection; however, this therapy does not completely alleviate acute herpetic neuralgia. It also prevents the possibility of persisting pain such as PHN.

Randomized trials support the effectiveness of both topical and oral agents; however, PHN is very difficult and sometimes even impossible to treat despite the use of strong analgesics. Pathologic evidence suggests that VZV can cause permanent peripheral and central nervous system damage, destroying sites of intrinsic pain inhibitory mechanisms where analgesics act. That´s why patients respond poorly or are even almost refractory to all drugs for pain [18,22], as happened to our patient.

Treatment is based on symptom control. As pain may persist for years, and even sometimes for life, medication is often required for long periods of time. As the drugs used are not free of adverse effects, these should be monitored as well as the evolution of pain, in order to modify treatments.

It is beyond the intention of this manuscript to compare treatments, so just to point out the options available, refer to (Table 1,2) for the recommended treatment of neuralgic pain.

Topical treatment may be used alone in mild pain, or in combination with oral drugs.

As many of the patients with PHN are elderly, and usually take other prescriptions, a close monitoring of side effects and drug - drug interactions should be performed.

PREVENTION OF PHN

Antiviral drugs for acute HZ have shown to reduce severity of acute pain and rash, hurry rash resolution and reduce the duration of pain. In Argentina we use Aciclovir and Valaciclovir. There is evidence that the early use of either of these medications, may help to reduce the risk of PHN [23,24]. In the case discussed above, our patient took the correct treatment which begun at the third day of the beginning of symptoms, and less than one day of the beginning of the blisters.

Some medications have been suggested to ease acute pain and prevent the development of PHN, such as local injections

Table 1: Available options for PHN treatment.
Topical treatment
• Lidocain gel
• Capsaicin cream (has to be applied several times a day, and besides that, causes a burning sensation and local eritema). Makes it difficult to tolerate.
Sistemic treatment
• Non steroidalantiinflamatory drugs and acetaminophen
• Steroids
• Gabapentinorpregabalin
• Tryciclicantidepressants
• Opiods
Other treatments
• Local anesthetic or neurolytic blocks of the sympatehtic nervous system
• Acupuncture

Table 2: Recommendations for first line medication and Opioid Agonists for Neuropatic pain (22).

Medication class	Starting dosage	Tritation	Maximum dosage	Duration of adequate trial
Secondary(2°) amine TCANortriptiline or desipramina(Terciary amine TCA only if 2° not available)	25 mg bedtime	25mg/d every 3-7 d as tolerated*	150 mg/d	6 – 8 weeks with at least 2 weeks at maximum tolerated dosaje
SSNRIs Duloxetine Venlafaxina	 30mg /daily 37.5mg once or twice daily	 Increase to 60mg/d after 1 week Increase by 75 each week	 60 mg twice daily 225 mg/d	 4 weeks 4 – 6 weeks
Calcium Channel α^2 ligands Gabaentin[(A)] Pregabalin[(A)]	 100 -300 mg bedtime or 3 times daily 50mg 3 times daily or 75 twice daily as tolerated	 Increase 100-300 mg/d every 1 - 7 days as tolerated Increase to 300mg every 1-7 days as tolerated	 3600mg/d (1200 x 3). Reduce if impared renal function 600 mg/d (200 x 3 or 300 x 2). Reduce if impared renal function	 3-8weeks for tritation + 2 weeks maximum dosage 4 weeks
Topical lidocaine 5% lidocaine patch	Maximum 3 patches daily for a maximum of 12 hs	None needed	Maximum 3 patches daily for a maximum of 12- 18 hs	3 weeks
Opiois Agonists Morphine, oxycodone, methadone, levorphanol Tramadol[(A*)]	 10-15 mg morphine every 4 hs or as needed 50 mg once or twice daily	 After 1 -2 weeks convert total daily dosage to long acting opioid analgesic and continue short acting medication as needed Increase 50-100 mg/ d in divided doses every 3 -7 days as tolerated	 No maximum dosage with careful tritation. Consider evaluation by pain specialist as relatively high dosages 400mg/d (100 x 4); in patients >75years: 300mg / daily	 4 – 6 weeks 4 weeks

SSNRI selective serotonine norepinephrine reuptake inhibitor
TCA: tricyclic antidepressants
[A]: lower starting dosages and slower increasing dosage in older adults
[A*]: Consider lower starting dosages and slower increasing in older adults. Dosages given are for short acting formulations

of methylcobalamin with or without lidocaine, proven in small groups of patients [25].

On the other hand, several trials demonstrated that the addition of steroids to antivirals at the initiation of treatment did not reduce the incidence of PHN [26].

However, the only well documented means of preventing PHN is the prevention of HZ with the live attenuated VZV vaccine. This vaccine reduces the incidence of HZ by 51% and the incidence of PHN by 66% [27-29]. Comparing 60 to 69 year old patients with 70 years old or older as receiving the vaccine, it seemed to be less effective in reducing the risk of HZ (63.9% versus37.6% reduction), but conferred similar protection against PHN65.7 in 60 to 69 versus 66.8% in 70 and older.

HZ vaccine became available in our country in 2014, and is recommended for inmunocompetent adults aged 60 to 70. It has

still low acceptance, maybe because of its cost, and because it has no health insurance covering.

As the possibility of a second episode is unlikely, and the indication of zoster vaccine should consider at least one year since the previous episode, besides her age (81 years) we did not prescribe zoster immunization to our patient.

SUMMARY

As shown above, PHN may be a long, and very much affecting of quality of life disease. Our patient is a robust older adult; she is still working and has family obligations, which are very much affected by this incapacitating pain.

PHN prevention is mainly achieved through the vaccine, which is recommended to individuals aged 60 to 70, independently of history of VZV infection, since more than 95% adults over 40 are immune to VZV, thus at risk for HZ [30].

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