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POST HERPETIC PRURITUS- ITCH IS PAINFUL

Dr Pallavi Dhawan* MBBS, MS, FICO, FERC, Assistant Professor, Department Of Ophthalmology, Rama Medical College Hospital & Research Centre, Kanpur *Corresponding Author

Dr Atul Dhawan MBBS, MS, FERC, Medical Director, ASG Hospital, Kanpur

ABSTRACT Postherpetic Pruritus or Itch (PHI or PHP) is characterised by chronic and persistent itching in dermatomes previously affected by herpes zoster.It is an uncommon adverse equela of VARICELLA zoster infection.The development of post herpetic pruritus has been reported more frequently after herpes zoster ophthalmicus (HZO).Although PHI is mostly reported with post herpetic neuralgia (PHN),some patients in literature did not have prior or concurrent PHN.A 32 years old immunocompetent female developed left side HZO followed by keratouveitis in left eye. Six months later she developed severe itching on left side of forehead and face. Antihistamines were not effective.She was prescribed oral gabapentin for 5 months and she had marked improvement in PHI.She never developed PHN in 2 years of follow up.

KEYWORDS : Herpes Zoster Ophthalmicus, Post Herpetic Itch

INTRODUCTION

Herpes zoster (HZ), commonly called Shingles, is a distinctive syndrome caused by reactivation of Varicella Zoster Virus (VZV). This reactivation occurs when immunity to VZV declines because of aging or immunosuppression. HZ can occur at any age but most commonly affects the elderly population.

The most common sites are thoracic nerves and ophthalmic division of the trigeminal nerve. Herpes Zoster Ophthalmicus (HZO) occurs in 10 -20% of HZ episodes [1]. Approximately, 20% of the patients with HZ develop Post Herpetic Neuralgia (PHN) with a range of 8-70% that increases with advancing age. Risk factors for PHN other than advancing age are female gender, history of prodromal severe pain and immunocompromised state.

Post Herpetic Itch or Pruritus (PHI) is a scantily studied sequel to shingles. Post HZ, 9-35% experience chronic itch without any pain and about half of these experience itch at an intensity of >/= 4 on Visual Analogue Scale {VAS 0-10} [2,3]. PHI can be disabling and intractable to treatment. In spite of this, PHI is sparsely mentioned in medical literature [2,4-6]. There are no controlled trials but few case reports of partial efficacy of gabapentenoids, topical amitriptyline/ketamine, 8% topical capsaicin, pulsed radio-frequency treatment and topical lidocaine. Currently, there is no well established approach to treat PHI. The efficacy and safety of treatment modalities described in case reports is not certain. Here, we describe a case of intractable PHI treated with oral gabapentin.

Case Report

An apparently healthy female, age 32 years, presented to us with left side Herpes Zoster Ophthalmicus (HZO) with vesicular lesions on left upper half of face along with follicular conjunctivitis. On routine blood examination, she was found to be moderately anaemic (Hb-8g/dl). Her Peripheral blood smear showed Microcytic and Hypochromic RBC's. ELISA for HIV was negative. She was advised oral acyclovir 800 mg five times per day for a week. After 2 weeks she came with severe diminution of vision in left eye and diagnosed as a case of keratouveitis. She was started on topical acyclovir 3%, steroids and mydriatics. Topical steroids were tapered slowly in next 2 months.

After 7 months of HZO episode, she presented with severe itching on left forehead and temple. She was having these itching episodes from last one month. She has taken oral antihistamines with no improvement in itching intensity and episodes .Her score for itching on VAS was 1. She also complained of itching on touch (alloknesis). She was diagnosed as Post Herpetic Itch (PHI). She was started with oral gabapentin 800 mg/day for two months followed by gradually tapering it for next 3 months. Patient showed marked improvement in itching intensity and its frequency with in 2 weeks. After 1 month of treatment, she got completely cured. She has never developed PHN in the 2 years of follow up.

DISCUSSION

Itch is an unpleasant sensation that elicits the desire to scratch in order to remove noxious stimuli. Itch is least understood among the somatic senses. Also, the neural circuits that transducer, transmit, and modulate it are incompletely identified [7]. Itch, especially chronic itch, is divided into four subtypes: dermatologic, systemic, neuropathic, and psychogenic [8].

Itch is a small fiber mediated sensation like pain and hypothesized to have evolved to protect against small threats like insects and plant spine that would not be effectively removed by withdrawal response associated with sensing pain. Dermatologic or pruritoceptive itch is most common [9].

The exact mechanisms underlying neuropathic itch are largely unknown. Neuropathic itch has been defined as an itch initiated from diseases or disorders of the central nervous system (CNS) or peripheral nervous system (PNS) [10]. PHI is an example of neuropathic itch due to damage of part of PNS due to herpes virus. Neuropathic itch/pruritus can be very distressing and difficult to treat. Conventional anti-histamines lack efficacy [8].

Local treatment tried for neuropathic itch includes topical capasaicin, local anesthetics, topical amytriptiline-ketamine, doxepin, tacrolimus and botulinum toxin A while oral therapy includes anti convulsants such as gabapentin and pregablin [11]. Capsaicin depletes nociceptive neurotransmitter, substance P, from terminals of unmyelinated C fibers and thus decreasing not only PHN but PHI too [12].Topical low dose (0.075%) capsaicin has been used in several painful diabetic and non-diabetic neuropathies [13]. Single high dose (8%) capsaicin patch is approved for non diabetic peripheral neuropathic pain conditions[14].Also reported to be used in PHI [15] but should not be used too close to eye[12]. Lidocaine 5% patches are effective in PHN as approved by clinical trials and may also be used effectively for PHI. Other than patches, peripheral nerve block with a high concentration of tetracaine dissolved in bupivacaine was used for intractable post-herpetic itch in a case report[16]. Also, Lee HG et al assessed topical ketamine-amitriptyline-lidocaine efficacy and tolerability in chronic pruritis[17]. Also, in a case report by Griffin et al. amitryptyline/ketamine was used effectively for neuropathic pruritus and pain secondary to herpes zoster[18].

Gabapentin, being an antiepileptic drug, possesses a central analgesic effect and also resists the ectopic discharge of the peripheral nerve after injury. Its main pharmacological mechanism is to block the Ca2+ influx, thereby reducing the excitatory amino acid and neurotransmitter release. There are reports for gabapentin to be used in brachio-radial pruritus, multiple sclerosis-related itch[19, 20] and pruritus associated with nerve damage in cutaneous and systemic diseases[21]. In a study by Solak et al. gabapentin and pregabalin given for neuropathic pain, effectively decreased uraemic itch also[22].

Proposed possible mechanisms for PHI in a report include electrical hyperactivity of hypo-afferented central itch-specific neurons, selective preservation of peripheral itch fibres from neighbouring unaffected dermatomes, and/or imbalance between excitation and inhibition of second-order sensory neurons[4]. Membrane stabilizer, like gabapentin prolong depolarisation of nerves, resulting in

depressed neuronal membrane excitability and reduce rate of neuronal activity. Henceforth, effective use of gabapentin in PHI is justifiable. There may be some unknown pathway also for gabapentin to act efficacious in treating PHI which is a matter of future research. Gabapentin has a wide therapeutic index with few side effects and drug interactions, is not hepatically metabolized, and is excreted by the kidneys. Some common side effects of gabapentin include somnolence, dizziness, ataxia and confusion[23]. Abrupt discontinuation of gabapentin may result in withdrawal symptoms as per reports[24]. In our case we gradually tapered and stopped gabapentin with no withdrawal symptoms to the patient as a result.

CONCLUSION

Complications of HZO like recalcitrant disease, keratitis, and PHN have already proved to cause significant visual morbidity and functional disability in patients. PHI ,though less reported and more resistant to treatment , affects patient's quality of life similar to PHN. An ophthalmologist should be well versed with PHI as it is debilitating to the patient and scantily mentioned in literature. Gabapentin has already been used successfully for neuralgias and pruritus of unknown origin. Considering the interaction of pruritus and pain neuronal pathway, neuropathic analgesics like gabapentin can prove to efficacious in treating PHI. Oral gabapentin can be specially superior to other topical treatments for PHI , like in our case, as topical medications can be toxic around eye.

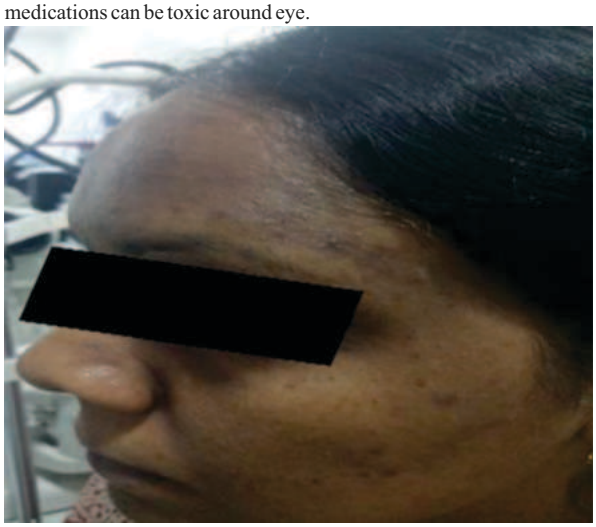

Fig 1: Left Sided Resolved Herpes Zoster Ophthalmicus

Declaration Of Patient Consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/ her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts Of Interest

There are no conflicts of interest

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