Case Report

JRAD Journal of Research and Advancement in Dentistry

J Res Adv Dent 2018;8:2:235-240

Herpes Zoster: A Case Report Unveiling the Gravity of Comprehensive History Taking

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ABSTRACT

Background: Herpes zoster (HZ) (Shingles) is a sporadic disease which results due to reactivation of the latent varicella zoster virus (VZV) that is present because of previous exposure to varicella infection (chickenpox). C3, T5, L1, L2 and 1st division of the trigeminal nerve are the most commonly affected nerves, the involvement of 2nd and 3rd division of trigeminal nerve is a rarity. The condition is marked by manifestation of multiple, painful, unilateral vesicles and ulcerations which show a typical single dermatome involvement. In this case report, we present a 40 year old male patient who came with complaint of dental pain and diagnosed with HZ. Early and correct diagnosis is mandatory to avoid unnecessary dental treatment. Use of antiviral agents should be the mainstay of its management.

Keywords: Herpes Zoster, Antiviral Drugs, Papulovesicular rash.

INTRODUCTION

VZV is omnipresent DNA virus which belongs to the alpha herpes viridae family leading to both primary and recurrent infection. Chicken pox (varicella) is a generalized primary infection [1]. After the primary infection, it remains latent in the cranial nerve, dorsal root, and autonomic nervous system ganglia along the entire neuraxis [2]. HZ cases present with the characteristic unilateral, localized, vesicular eruptions accompanied by neuropathic pain in the affected dermatome [3]. This neuropathic pain is known as post herpetic neuralgia (PHN), and usually occurs 30 or 120 days after the onset of acute rash [4]. The infection commonly presents with prodrome of dermatomal pain that precedes the appearance of the characteristic unilateral eruptions characterized by the presence of crops of vesicles in the skin and mucosa which are unilaterally and linearly distributed alongside the distribution of the affected nerve [5]. The characteristic appearance of this condition is occurrence of multiple, unilateral, painful vesicles, and ulceration involving a single dermatome. Increased age, physical trauma, (including dental procedures), psychological stress, malignancy, radiation therapy, and immunocompromised states including transplant recipients, steroid therapy, and HIV infection are predisposing factors for VZV reactivation [6]. Osseous and dental manifestations such as devitalized teeth, spontaneous exfoliation of teeth and necrosis of maxilla and mandible have been reported. Herpes zoster affecting the oral and maxillo- facial region may pose a significant diagnostic challenge and should be considered differential diagnosis. atypical odontalgia [7].

CASE REPORT

A 40 year old male patient reported in department of oral medicine and radiology with chief complaints of pain in left lower and upper back tooth region since 3-4 days. While proceeding with history, patient apprised symptoms of fever,

Received: June. 9, 2018: **Accepted**: Aug. 2, 2018
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pISSN 2278-0076
eISSN 2321-9270

Fig 1: Vesicle,Scab & Crusting.

Fig 2: Vesicle in cluster.

Fig 3: Vesiculopustular rash on lower lip.

Fig 4: Crusting on lower lip.

Fig 5: Ulcer on lower lip with white slough.

Fig 6: Papulovesicular lesion.

Fig 7: Unilateral multiple small ulcers on palate.

POST TREATMENT RESULTS

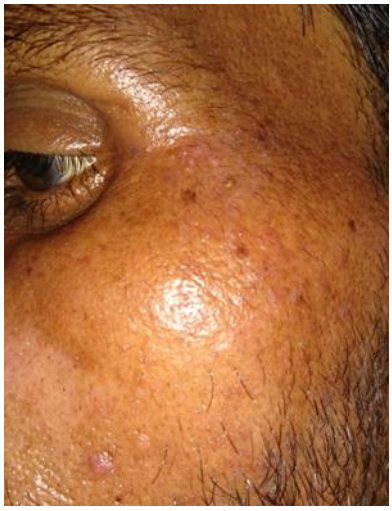

Fig 8: Healed lesion on outer canthus of eye.

Fig 9: Healed lesion on tragus region.

Fig 10: Healed lesion on lips.

Fig 11: Completely healed ulcers on palate.

Fig 12: Resolved Papulovesicular lesion.

burning and itching sensation on left side of face, 7 days ago. He discerned eruption of fluid filled blisters on left side of face, upper and lower lip and pain 6 days ago which ulcerated further 5 days ago. Pain started in left upper and lower teeth, 3-4 days ago and was dull, non radiating and continuous in nature. Pain was unilateral (affecting only left side). Patient has no past medical history. Patient had a history of chewing tobacco 2 years ago.

On extraoral examination, there was scab or crusting seen on left tragus and small vesicles were present 1 cm medial to left tragus (Figure 1). There was papulovesicular rash seen on left lateral side of nose which appeared in clusters or in "zosteriform" appearance. Also crusting was seen 1 cm lateral to outer canthus of eye with vesicles in clusters around it (Figure 2). There was vesiculopustular rash is seen on lower lip on left side with crusting seen on lower left side of chin and there was blood coming out from left lower side of lip (Figure 3, 4). There was one large ulcer present on lower lip with white slough in its center with necrotic area surrounded by erythematous halo (Figure 5).

On intra oral examination, there was no dental finding on left upper and lower teeth. Multiple ulcers observed on left side of lower labial mucosa which discerned in cluster form (Figure 5). Papulovesicular lesion observed in coalescence form on left buccal mucosa extending from retrocommisure area to posteriorly upto 37 region (Figure 6). Multiple small ulcers were present on left side of hard palate which did not cross the mid palatine raphe (Figure 7). Intra oral radiographs of 26, 27, 28 and 36, 37, 38 were taken which confirmed that there is no dental cause associated with complaint of dental pain. Based on history and clinical examination diagnosis of herpes zoster involving left side of face was made. Patient was prescribed acyclovir 800 mg five times daily for 7 days, paracetamol 500 mg three times daily for 7 days, topical application of acivir cream extraorally 4-5 times a day and chlorhexidine mouth rinse. Patient was advised to drink lots of water, have protein rich diet and to maintain oral hygiene. Patient was recalled after 7 days. After 7 days lesions which were present on left side of tragus, 1cm lateral to outer canthus of eye, left side of upper and lower lip were healed upto 99% (Figure 8, 9 and 10). Intraoral lesions which were present on left side of hard palate, left buccal mucosa and lower left side of labial mucosa were healed up completely (Figure 11 and 12). Pain in left upper and lower teeth was also subsided.

DISCUSSION

HZ of the trigeminal nerve is a disease that falls within the diagnostic purview of all dentists and dental specialists. In 1892, Von Bokay [8] first suggested the relationship between the etiologies of varicella and HZ. The first suggestion was made by Garland and Hope Simpson [9] that HZ is caused by reactivation of latent virus acquired during varicella. Initially, the lesions in the affected dermatome are clustered at a few sites. As the disease progresses, the vesicles often coalesce into larger, fluid filled lesions. Prodromal symptoms include neuropathic pain, headache, malaise, and disrupted sleep. HZ may affect any sensory ganglia and its cutaneous nerve. Most of the infections affect dermatomes of T3 to L2, however, approximately 13% of the patients present with infections involving any of the three branches of the trigeminal nerve [10]. Zoster associated complications include neurologic components such as Guillian–Barre syndrome, encephalitis, myelitis, Ramsey–Hunt Syndrome, and Horner's syndrome. In general, ocular complications involve ulcerations, hemorrhage, conjunctivitis, and optic neuritis. Involvement of the trigeminal nerve leads to lesions on the upper eyelid, forehead, and scalp with V1; midface and upper lip with V2; and lower face and lower lips with V3 [11]. In our case, left ophthalmic, maxillary and mandibular division of trigeminal nerve were involved. Complications can occur in 10–46% of the patients with HZ infection [1]. The skin lesions involved in erythema multiforme may mimic these lesions, however, the unilateral lesions typically involving the dermatomes and absence of target lesions may help to exclude lesions with erythema multiforme.

The treatment objectives of HZ have 3 main objectives. 1) Treatment of acute viral infection. 2) Treatment of acute pain associated with HZ. 3) Prevention of post herpetic neuralgia. Antiviral agents have been shown to decrease duration of HZ rash and severity of pain associated with rash. Acyclovir 800 mg orally 5 times a day for 7 days or 10mg/kg IV every 8 hours for 7-10 days.

Famciclovir 500 mg orally 3 times daily for 7 days. Valacyclovir 1g orally 3 times daily for 7 days. Brivudin 125 mg once daily for 7 days [7]. In our case patient responded with acyclovir 800 mg 5 times daily for 7 days.

Some newer molecules which are under development and are found to be highly potent are still on clinical trials and yet to be approved [12, 13].

1) CMX001 Hexadecyloxypropyl-cidofovir.
2) Valamaciclovir nucleoside analogue (H2G)
3) ASP2151 Helicase primase inhibitor
4) FV100 two bicyclic nucleoside analogue (BCNA)

Recent treatment modalities include lysine/arginine usually given at 300–1200 mg dosage per day. Topical zinc treatment is applied as topical solution of zinc sulphate (4%) in water four times daily for 4 days. Vitamin C is given as 200 mg ascorbic acid and 200 mg as water-soluble flavonoids (apparently from citrus) three times daily for 3 days. Oral zinc treatment includes oral administration of 23 mg zinc sulphate and 250 mg vitamin C, each twice daily for 6 weeks. Vitamin E was given in uncontrolled trials; topical application of vitamin E relieved pain and aided in the healing of oral herpetic lesions (gingivostomatitis or herpetic cold sores). The affected area was dried and cotton saturated with vitamin E oil (20000–28000 IU per ounce) was placed over it for 15 min. Adenosine monophosphate is also given; each injection contained 1.5–2.0 mg per Kg body weight and was administered every other day for a total of 9–12 treatments [1].

If patient comes with complaint of dental pain, as in our case and upon examination if there is no dental finding we should look for eruptions (like vesicles, ulcers etc) if any and formulate the diagnosis accordingly. If there is no eruptions observed but still complaint of dental pain with no dental finding ask history whether he suffered from HZ earlier to rule out diagnosis of PHN. Early diagnosis of HZ and treatment with antiviral medications decreases the risk of PHN. To avoid PHN, anti virals along with corticosteroids should be prescribed to decrease its risk. The role of oral physician is crucial in appropriate history taking, clinical examination, formulation of diagnosis and then prepare treatment plan.

CONCLUSION

HZ infection may be infrequently encountered in general health practice; however many patients do report to dental clinic with complications of HZV infection involving trigeminal neuralgia in about 15% of cases. Diagnosing these complications of HZ could pose a challenge to an oral physician due to their varied presentation ranging from post herpetic neuralgia, external root resorption, osteonecrosis and tooth exfoliation. Elderly and immunocompromised patients are susceptible and hence burning sensation, pain, vesiculation, ulceration along the course of trigeminal neuralgia should be treated with HZV infection in mind. When patient comes with dental pain and there is no dental finding, do not go for unnecessary dental treatment. Rule out non dental causes, focus on appropriate history and formulate the diagnosis and treat the patient accordingly.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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