OSTEOMYELITIS AS A RARE COMPLICATION OF HERPES ZOSTER INFECTION ASSOCIATED WITH NEURALGIA

A CASE REPORT & REVIEW OF LITERATURE

ABSTRACT

Herpes zoster is caused by reactivation of latent varicella zoster virus in cranial-nerve or dorsal-root ganglia, with spread of the virus along the sensory nerve to the dermatome. Osteomyelitis of the jaws as a complication of herpes zoster infection is a rare finding. The aim of this paper is to review the literature regarding osteomyelitis as an unusual complication secondary to herpes zoster and to present a case report of this complication in an immunocompetent patient.

CASE REPORT

A 52 year-old male patient presented with herpetic neuralgia of mandibular & maxillary divisions of trigeminal nerve with associated osteomyelitis of left side of mandible.Patient was treated with antivirals, antibiotics, carbamazepine with curettage and debridement.

CONCLUSION

Osteomyelitis of the jaws as a complication of herpes zoster infection is a rare finding. The etiopathogenesis of herpes induced osteomyelitis is controversial and research in this aspect is hindered by limited sample size. Through this case report we try to present a rare case of osteomyelitis as a complication of herpes zoster infection. Further research with randomized control trials is warranted for better management of this condition.

Keywords: Osteomyelitis, Neuralgia, Hepres zoster, Mandible, Trigeminal nerve.

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Introduction

Primary infection with varicella-zoster virus (VZV) results in chickenpox, characterized by viremia with a diffuse rash and seeding of multiple sensory ganglia, where the virus establishes lifelong latency[1]. Herpes zoster infection commonly known as shingles is caused by reactivation of latent VZV in cranial-nerve or dorsal-root ganglia, with spread of the virus along the sensory nerve to the dermatome[1]. Even though the skin rash regularly heals after 2-4 weeks, the nerve pain remains for months or years demonstrating a condition called post-herpetic neuralgia[2].Trigeminal nerve is the most commonly affected cranial nerve[3].Trigeminal nerve is affected unilaterally and limited to a single division, more often the first division in herpes zoster patients. Oral manifestations of herpes zoster appear when the second or third division is involved[4].

Antiviral drug therapy can reduce the severity and duration of herpes zoster if the administration of these drugs is started within 72 hours from the initial presence of the characteristic skin rash and is continued for 7-10 days.[2] In general, the incidence and burden of herpes zoster complications other than post-herpetic neuralgia are poorly studied and consequently, reliable epidemiological information is scarce[5]. Reports of dental complications are even rarer[5]. Herpes zoster-induced alveolar bone necrosis is a rare manifestation of this disease and few case reports are available in the literature[2]. This brutal manifestation of the disease is most often noted in immunocompromised and rarely in immunocompetent patients[2]. The aim of this paper is to review the literature regarding osteomyelitis as an unusual complication secondary to herpes zoster and to present a case report of this complication in an immunocompetent patient.

Case Report

A 52 year-old male patient presented to the outpatient department of oral & maxillofacial surgery with complains of pain in his lower right back tooth region since 2 months and vesicular eruptions in left side of the face since 10 days which turned into ulcerations and healed with hyper pigmentation in the left side of his face, as well as the left ear. Patient gave history of exfoliation of teeth in left mandibular region1 month back. No relevant medical history was present. Multiple areas of hyper pigmentation were seen in the left middle and lower one-third of the face along the distribution of the mandibular and maxillary division of the trigeminal nerve. Pain was severe lancinating type and was found along the course of the maxillary and mandibular division of trigeminal nerve. There was no associated lymphadenopathy.

Evidence of pus discharge from the left ear was present. No evidence of altered sensation was present. Intraoral examination revealed partially edentulous region with non-healing necrotic region in the left side alveolar region extending from 31 to 36 region. There was sloughing over the necrotic bony region. The necrotic region was tender on palpation. Panoramic radiograph showed the outlines of the sockets of the exfoliated teeth. A provisional diagnosis of osteomyelitis with associated herpetic neuralgia was made. The patient was treated with Acyclovir 800 mg five times daily, Amoxicillin 500 mg three times a day, and carbamazepine100 mg three times a day. Debridement with curettage of the necroticalveolar bone was done under local anesthesia. The patient was lost to follow up. It is rare to find osteomyelitis with herpes zoster infection in an immuno competent patient.

Discussion

Post-herpetic neuralgia or pain persisting after the rash has resolved (often defined specifically as pain persisting for 90 days or more after the onset of the rash), is a feared complication of herpes zoster. The pain may persist for many months or even years; it may be severe and interfere with sleep and activities of daily living, resulting in anorexia, weight loss, fatigue, depression, withdrawal from social activities and employment, and loss of independent

living[1].The rash of herpes zoster is dermatomal and does not cross the midline, a feature that is consistent with reactivation from a single dorsal-root orcranial-nerve ganglion[1]. The thoracic, trigeminal, lumbar, and cervical dermatomes are the most frequent sites of rash, although any area of the skin can be involved.

Additionally, symptoms like acutepulpitis, toothache, root resorption and periapical lesions are often observed when the maxillary and mandibular nerves are involved. Rarer still, some cases involve osteomyelitis and tooth exfoliation[4]. The treatment goal for HZV infection is to reduce acute viral infection, acute pain, and post-herpetic neuralgia. Immediate administration of an anti-viral agent and active use of pain killers for post-herpetic neuralgia are required[6]. When herpes zoster related osteomyelitis of the jaw occurs, it can be managed by proper antibiotic administration, curettage or debridement of necrotic tissue and periodic followup[7]. In this case we managed the condition with antivirals, antibiotics, carbamazepine with curettage and debridement. It is rare to find this in an immunocompetent patient and in our case patient never had any medical history.

Dechaume et al reported a case of herpes induced osteomyelitis in 1955[8]. Cooper in 1977 reported two cases of bone necrosis with herpes zoster infection[9]. Mckenzie et al reported two cases of herpes induced osteomyelitis[10]. Although the lesion has been reported but most scientific publications are limited by sample size.

Fig. 1 Lateral profile view showing vesicular eruptions with scarring on left side of face

Conclusion

Osteomyelitis of the jaws as a complication of herpes zoster infection is a rare finding. The etiopathogenisis of herpes induced osteomyelitis is controversial and research in this aspect is hindered by limited sample size. Through this case report we try to present a rare case of osteomyelitis as a complication of herpes zoster infection. Further research with randomized control trials is warranted for better management of this condition.

Fig. 2 Intraoral view of the necrosed bone on left side

References

1. Cohen J.Herpes Zoster. New England Journal of Medicine. 2013;369(3):255-63.
2. Tabrizi R., DehghaniNazhvani A., Vahedi A., Gholami M., Zare R., EtemadiParsa R. Herpes Zoster Induced Osteomyelitis in the Immunocompromised Patients: A 10-year Multicenter Study.J Dent Shiraz Univ Med Sci., September 2014;15(3):112-6.
3. Jain MK, Manjunath KS, Jagadish SN. Unusual oral complications of herpes zoster infection: Report of a case and review of literature. OralSurg Oral Med Oral Pathol Oral RadiolEndod 2010;110:e37-41.

4. Carbone V, Leonardi A, Pavese M, Raviola E, Giordano M. Herpes zoster of the trigeminal nerve: a case report and review of the literature.Minerva Stomatol 2004;53:49-59.
5. Gupta S, Sreenivasan V, Patil P. Dental complications of herpes zoster: Two case reports and review of literature. Indian Journal of Dental Research. 2015;26(2):214.
6. Gershon AA, Gershon MD, Breuer J, Levin MJ, Oaklander AL, Griffiths PD. Advances in the understanding of the pathogenesis and epidemiology of herpes zoster. J ClinVirol 2010;48 Suppl1:S2-7.
7. Mendieta C, Miranda J, Brunet LI,Gargallo J, Berini L. Alveolar bone necrosis and tooth exfoliation following herpes zoster infection:a review of the literature and case report. J Periodontol 2005;76:148-53.
8. Dechaume M, Descrozailles C, Garlopeau F, Robert J. Localized mandibular necrosis during herpes zoster infection(in French). Rev Stomatol1955;56:516-21.
9. Cooper JC. Tooth exfoliation and osteonecrosis of thejaw following herpes zoster. Br Dent J 1977;143:297-300.
10. Mckenzie CD, Gobetti JP. Diagnosis and treatment of orofacial herpes zoster: Report of cases. J Am Dent Assoc1990;120:679-81.