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Test Your Knowledge

PAINFUL ORAL ULCERS

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Figure 1 shows the photograph of the oral cavity of a 51-year-old male who complained of multiple painful oral ulcers for the past two days. He has no past medical illnesses of significance. The following day, he returned to the practice complaining of an excruciating pain over the left cheek and also expressed concern over the development of a rash over the left upper lip region which is slightly painful (Figure 2). He has no fever or other systemic complains.

Figure 1

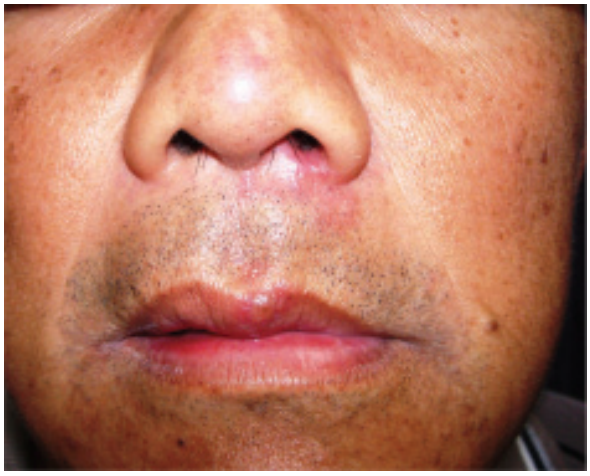

Figure 2

QUESTION:

1. Describe the findings.
2. What is the likely diagnosis?
3. What is the treatment?
4. Is prevention possible for this condition?

ANSWER:

1. Figure 1 reveals multiple mucosal ulcers characteristically confined unilaterally to the left palate and gums of the upper teeth. In some areas the mucosal surface has sloughed off leaving a denuded erythematous base. Figure 2 shows an erythematous rash with early vesicles over the left upper lip.

2. The diagnosis is herpes zoster involving the maxillary division of the trigeminal nerve. (Anatomy: The maxillary nerve is a purely sensory nerve. Its area of innervations includes the soft and hard palate, upper teeth and gum, lower eyelid, skin and mucous membrane of the cheek and upper lip).[1]

   Herpes zoster or shingles results from the reactivation of the varicella-zoster-virus in the dorsal root ganglia. The trigeminal and the thoracic ganglia are the most common sites involved. Typically herpes zoster gives rise to a vesicular rash that affects a single dermatome. Lesions in the oral cavity usually appear as vesicles or ulcerations that stop sharp at the midline.[2] Herpes zoster of the maxillary nerve can also give rise to a prodrome of pain or burning sensation that mimics a toothache. Unusual late complications that included devitalization and resorption of the structures of the teeth which occur in a single quadrant have been reported.[3]

   A diagnosis of herpes zoster is normally sufficient clinically without the need for serological tests. Opstelten *et al.* showed that the clinical diagnosis of herpes zoster made by family physicians is correct in more than 90% of case, serologic testing being used as the reference standard.[4]

3. Treatment of acute herpes zoster should be instituted as soon as possible, preferably before the development of

vesicles. Antiviral treatment, when given within 72 hours of the onset of the rash, increases the rate of healing and decreases the pain scores.[5] Pharmacological therapy includes acyclovir 800 mg 5 times a day for 7 to 10 days or valacyclovir 1 gm 3 times daily or famciclovir 500 mg 3 times daily for 7 days.

Addition of corticosteroids to antiviral therapy has been shown to have some benefit in reducing the acute pain of herpes zoster in one large randomized double-blind placebo controlled trial.[6] Overall, however, the benefits of adding corticosteroids to the treatment regime are small and are diminished by their potential risks. The fear that steroids may cause dissemination of the localized herpes was not observed in clinical trials. Over-the-counter analgesics or narcotic analgesics are frequently used for pain in acute herpes zoster. In a randomized placebo-controlled trial controlled-release oxycodone was shown to be of useful in acute herpetic pain.[7] However, the drug gabapentin did not provide significantly greater acute pain relief than placebo in the same study. Gabapentin is a proven therapy for post-herpetic neuralgia (defined clinically as pain that persisted more than 30 days after the rash has resolved).[8]

4. Prevention of herpes zoster may be achieved with the use of the varicella-zoster vaccine (Zostavax, Merck). The aim of the vaccine is to boost the waning cell-mediated immunity of the older adult with an augmented titre of the live attenuated "chickenpox" vaccine. The vaccine has been approved for use in persons 60 years of age or older. The NNT (number needed to treat) is approximately 17 for the prevention of herpes zoster and 31 for the prevention of post-herpetic neuralgia.[8] Efficacy data are not available for persons 50 to 59 years of age.

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Eating green leafy vegetables can reduce the risk of type 2 diabetes

Carter P, Gray LJ, Troughton J, *et al.* Fruit and vegetable intake and incidence of type 2 diabetes mellitus: systematic review and meta-analysis. *BMJ*. 2010;341:c4229. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2924474/pdf/bmj.c4229.pdf

This is a meta-analysis of six cohort studies to evaluate the effect of intake of fruit and vegetables on incidence of type 2 diabetes. Summary estimates showed that greater intake of green leafy vegetables was associated with a 14% (hazard ratio 0.86, 95%CI 0.77 to 0.97) reduction in risk of type 2 diabetes (P=0.01).