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**DEN 2311**

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**Overview**

It is more uncommon to hear that someone has chickenpox now compared to a few decades back because more people nowadays are vaccinated against chickenpox. The fact that more people are vaccinated against the VZV is vital because Herpes Zoster (also known as Shingles) is caused by the reactivation of latent Varicella-zoster virus in cranial-nerve or dorsal-root ganglia, spreading the virus along the sensory nerve to the dermatome (Cohen, 255). The virus will become active for 1 in 3 adults and lead to shingles (Cohen, 256). In other words, people who have antibodies against chickenpox cannot get shingles. Although Herpes Zoster is not contagious, it can cause chickenpox in someone who has never had it before or is not vaccinated. Even though the factors that cause the activation of the herpes zoster virus are not fully understood, the CDC states that it may be due to stress, advanced age, cancer, or organ transplantation (Randolph, 528). As dental professionals, it is vital to be aware of the clinical presentation of this virus and the impact it may have on the patient and other people.

           Simply put, the Herpes zoster virus reproduces within the cells and hides in the nerves until it awakens (Randolph, 528). A key factor of shingles is that it is dermatomal and does not cross the midline. The rash that appears comes with itching, tingling, or pain. Paresthesia occurs in the involved dermatome 3-5 days before vesicles and crusts form and last up to 3 weeks. All these symptoms can be continuous or episodic (Cohen, 256). An example of a clinical manifestation of shingles is an older patient with a rash over the *right*forehead with vesicle and pustules, a few lesions on the *right* side and tip of the nose. This rash started by tingling in the area and is also associated with aching pain.

People with a higher risk of getting shingles are those who suffered trauma, are older than 50 years old, have HIV, cancer, and chemotherapy (Conceicao, 40). Unvaccinated persons who live to 85 years of age have a 50% risk of experiencing a herpes zoster episode. According to Dr. Cohen, “the risk is higher for women than for men, for whites than for blacks, and for persons with a family history of herpes zoster than for those without such a background.” (255). Although Herpes Zoster is diagnosed clinically, atypical rashes will be tested for a direct immunofluorescence assay for the VZV antigen or a polymerase-chain-reaction (PCR) assay for VZV DNA in cells from the base of lesions after they are unroofed. The cells that have the VZV DNA will appear dead (Cohen, 257).

When patients first get the shingles, it could be mistaken for Herpes Simplex virus infection because of its dermatomal distribution. Antiviral therapy such as Acyclovir (800mg), Valacyclovir (1gm), and Famciclovir (500mg) is recommended especially for immunocompromised individuals for 7-10 days (Cohen, 258). Antiviral therapy should be initiated within 72 hours after the onset of the rash, and it is recommended that treatment start as early as possible within this interval. This antiviral therapy will speed up the healing of the ulcers, reduce the formation of new lesions, and reduce the onset of acute pain (Cohen, 258).

Without treatment, a patient with Herpes Zoster may suffer from post-herpetic neuralgia that may last for months or even years. Post-herpetic neuralgia is characterized by relenting pain from the acute phase of shingles that persists beyond the resolution of the rash (Conceicao, 42). In a worst-case scenario, this disease can lead to eye loss because this virus hides in the trigeminal ganglion that innervates the eye. If a patient presents with a lesion on the tip/side of the nose or forehead, they should be referred to an ophthalmologist to reduce the chance of scarring, iritis, and glaucoma (Conceicao, 41).

This disease is relevant because even though shingles are not contagious, the present VZV can spread to those not vaccinated against chickenpox. In addition, the Herpes Zoster virus, which remains dormant in the trigeminal nerve, may be reactivated along the maxillary, mandibular, or ophthalmic nerve (Randolph, 528). Knowing this is important because the trigeminal nerve also innervates the teeth, and thus, the recurrence of the herpes zoster may result in toothache. As a dental professional, it is essential to recognize the clinical presentations so that the patient does not receive dental treatment to protect other patients and staff. If a patient with shingles is treated using ultrasonics, it can spread the virus through the aerosols. Finally, knowing the etiology and progression of the Herpes Zoster virus will aid me in explaining to the patients the importance of being vaccinated against the VZV and the need for people over 50 years of age to get vaccinated against shingles (Herpes Zoster).

Sources

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