Herpes Zoster in the Workplace

by Stephanie Chalupka, EdD, APRN, BC, CNS, FAAOHN

Employees infected with zoster lose, on average, more than 129 hours of work per episode.

The varicella zoster virus (VZV) causes two distinct clinical conditions. The first, primary VZV infection (chickenpox), causes varicella that typically occurs among children. The second results when VZV reactivates decades after initial infection, causing herpes zoster (shingles). The Centers for Disease Control and Prevention (CDC) estimates that one third of Americans will develop zoster in their lifetime, with approximately one million new cases annually. Although deaths attributable to zoster are rare, except among immunocompromised populations, zoster can have important implications in the workplace. Employees infected with zoster, including those with postherpetic neuralgia (PHN), a painful and debilitating condition lasting months or years, lose, on average, more than 129 hours of work per episode (CDC, 2008).

A prodrome that may include photophobia, headache, and malaise precedes the development of a zoster rash by days or weeks. Fever may precede rash development. Clinical manifestations include dysthesias and skin hypersensitivity, which is followed by a localized distribution of painful vesicles across one to three adjacent dermatomes (Gershon, 2008). Vesicles are most commonly unilateral, not crossing the midline. A few lesions can occur outside the primary or adjacent dermatomes. Originating as maculopapular and erythematous, the rash progresses into clusters of clear VZV-containing vesicles that become pustular, ulcerated, and crusted (Gershon).

ABOUT THE AUTHOR

Dr. Chalupka is Professor and Director of the RN to BS Program, Department of Nursing, University of Massachusetts Lowell; and Visiting Scientist in Occupational and Environmental Health, Harvard School of Public Health, Boston, MA.

Ten percent to 18% of individuals with zoster develop PHN (CDC, 2008). The pain of PHN can cause fatigue, insomnia, anxiety, depression, difficulty concentrating, and inability to work (Oxman & Levin, 2008). Ten percent to 25% of those with zoster experience eye involvement—herpes zoster ophthalmicus (HZO). HZO may result in corneal ulceration, scleritis, ptosis, glaucoma, uveitis, and extraocular muscle palsies. Prolonged or permanent pain and loss of vision may follow HZO.

The risk of developing zoster increases with age. Individuals older than 50 years are particularly vulnerable. Other risk factors include altered immunocompetence, sex (women are at higher risk for zoster and subsequent PHN), and race (Whites are at higher risk than Blacks) (CDC, 2008).

Prompt treatment with oral antiviral agents can decrease the severity and duration of acute pain from zoster (Opstelten, Eekhof, Neven, & Verheij, 2008). Corticosteroids, analgesics, and antidepressants may be helpful for pain control or management of PHN.

Although some work settings (e.g., health care) require that workers with zoster be excluded from work until their lesions dry and crust, this is not the norm. Individuals with localized zoster should avoid contact with susceptible individuals at high risk (e.g., immunocompromised individuals, pregnant women, and all premature infants born to susceptible mothers) until lesions are crusted and no further risk of transmission exists (CDC, 2008). Although not transmitted through casual contact, sneezing, or coughing, VZV can be spread from an individual with active infection to one who has never had varicella via direct contact with the vesicular lesions that contain infectious VZV (Gershon, 2008). Those exposed would develop varicella, not zoster. Workers should be instructed that zoster can be transmitted when the rash is in the vesicle phase but risk is low if the rash is properly covered. Hand hygiene is important in preventing transmission. Postexposure prophylaxis with varicella vaccine should be considered if a worker susceptible to varicella has close contact with zoster (CDC).

In May 2008, the Advisory Committee on Immunization Practices released recommendations on the use of a live-attenuated vaccine for the prevention of zoster and its sequelae. In the absence of contraindications, the vaccine is recommended for adults 60 or older, including those who report a previous episode of zoster or who have chronic health conditions. The vaccine is contraindicated during pregnancy or for individuals with primary or secondary immunodeficiency or previous anaphylactic reaction to any vaccine components, including gelatin and neomycin (CDC, 2008).

When zoster vaccine and trivalent inactivated influenza vaccine are administered simultaneously, immunogenicity is not compromised. Zoster vaccine may be given with pneumococcal polysaccharide, Td, and Tdap vaccines as long as each is administered with a separate syringe at different anatomic sites (CDC, 2008).

REFERENCES

Centers for Disease Control and Prevention. (2008, May 15). Prevention of herpes zoster: Recommendations of the Advisory Committee on Immunization Practices. *Morbidity and Mortality Weekly Report, 57*, 1-30.

Gershon, A. G. (2008). Varicella-zoster virus infections. *Pediatrics in Review, 29*(1), 5-11.

Opstelten, W., Eekhof, J., Neven, A., & Verheij, T. (2008). Clinical review: Treatment of herpes zoster. *Canadian Family Physician, 54*(3), 373-377.

Oxman, M., & Levin, M. (2008). Vaccination against herpes zoster and postherpetic neuralgia. *Journal of Infectious Diseases, 197*(5, Suppl. 2), S228-S236.