

SHINGLES (HERPES ZOSTER)

Herpes zoster is an acute, localized infection with varicella-zoster virus, which causes a painful, blistering rash.

Causes, incidence, and risk factors

Herpes zoster, or shingles, is caused by the same virus that causes chickenpox. After an episode of chickenpox, the virus becomes dormant in the body. Herpes zoster occurs as a result of the virus re-emerging after many years. The cause of the re-activation is usually unknown, but seems to be linked to aging, stress, or an impaired immune system. Often only one attack occurs, without recurrence.

If an adult or child is exposed to the herpes zoster virus and has not had chickenpox as a child or received the chickenpox vaccine, a severe case of chickenpox may develop, rather than shingles.

After infection with chickenpox, the virus resides in a non-active state in the nerve tracts that emerge from the spine. When it is re-activated, it spreads along the nerve tract, first causing pain or a burning sensation. The typical rash appears in 2 to 3 days, after the virus has reached the skin. It consists of red patches of skin with small blisters (vesicles) that look very similar to early chickenpox. The rash often increases over the next 3 to 5 days. Then, the blisters break, forming small ulcers that begin to dry and form crusts. The crusts fall off in 2 to 3 weeks, leaving behind pink healing skin.

Lesions typically appear along a single dermatome (the body area served by a single spinal nerve) and are only on one side of the body (unilateral). The trunk is most often affected, showing a rectangular belt of rash from the spine around one side of the chest to the breastbone (sternum). Lesions may also occur on the neck or face, particularly along the trigeminal nerve in the face. The trigeminal has three branches that go to the forehead, the mid-face, and the lower face. Which branch is involved determines where on the face the skin lesions will be. Trigeminal nerve involvement may include lesions in the mouth or eye. Eye lesions may lead to permanent blindness if not treated with emergency medical care. Involvement of the facial nerve may cause Ramsay Hunt syndrome with facial paralysis, hearing loss, loss of taste in half of the tongue and skin lesions around the ear and ear canal. Shingles may also involve the genitals or upper leg. Shingles may be complicated by a condition known as post-herpetic neuralgia. This is persistence of pain in the area where the shingles occurred that may last from months to years following the initial episode. This pain can be severe enough to be incapacitating. The elderly are at higher risk for this complication.

Herpes zoster can be contagious through direct contact in an individual who has not had chickenpox, and therefore has no immunity. Herpes zoster may affect any age group, but it is much more common in adults over 60 years old, in children who had chickenpox before the age of one year, and in individuals whose immune system is weakened. The disorder is common, with about 600,000 to one million cases in the U.S. per year.

Most commonly, an outbreak of shingles is localized and involves only one dermatome. Widespread or recurrent shingles may indicate an underlying problem with the immune system such as leukemia, Hodgkin's disease and other cancers, atopic dermatitis, HIV infection, or AIDS. People with suppressed immune systems due to organ transplant or treatment for cancer are also at risk.

Symptoms

- Warning symptoms of unilateral (on one side) pain, tingling, or burning sensation limited to a specific part of the body - pain and burning sensation may be intense
- Reddening of the skin (erythema) followed by the appearance of blisters (vesicles)
- Grouped, dense, deep, small blisters that ooze and crust

Additional symptoms that may be associated with this disease:

- Fever, chills
- General feeling of malaise
- Headache
- Lymph node swelling
- Vision abnormalities
- Taste abnormalities
- Drooping eyelid (ptosis)
- Loss of eye motion (ophthalmoplegia)
- Hearing loss
- Joint pain
- Genital lesions (female or male)
- Abdominal pain

Signs and tests

Diagnosis is suspected based on the appearance of the skin lesions, and strengthened by a prior history of chickenpox or shingles. It can be confused with herpes simplex.

Tests are rarely necessary, but may include:

- Viral culture of skin lesion
- Tzanck test of skin lesion
- Complete blood count (CBC) may show elevated white blood cells, a nonspecific sign of infection
- Specific antibody (immunoglobulin) measurement demonstrates elevation of varicella antibodies

Treatment

Herpes zoster usually disappears on its own, and may not require treatment except for symptom relief, such as pain medication. Acyclovir, famcyclovir, and valacyclovir are antiviral medications that may be prescribed to shorten the course, reduce pain, reduce complications, or protect an immunocompromised individual. For the greatest effect, treatment with these medications should start within 24 hours of the appearance of pain or burning sensation, and preferably before the appearance of the characteristic blisters. Typically, the drugs are given as pills, in doses four times greater than those recommended for herpes simplex or genital herpes. Severely immunocompromised individuals may require intravenous (IV) acyclovir therapy.

Corticosteroids, such as prednisone, may occasionally be used to reduce inflammation and risk of post-herpetic neuralgia. They have been shown to be most effective in the elderly population. Corticosteroids have certain risks that should be considered before using them.

Pain medicines (analgesics), mild to strong, may be needed to control pain. Antihistamines may be used topically (direct application to the body) or orally (by mouth) to reduce itching. Zostrix, a cream containing capsaicin (an extract of pepper), may help with post-herpetic neuralgia.

Cool wet compresses can be used to reduce pain. Soothing baths and lotions, such as colloidal oatmeal bath, starch baths, or lotions and calamine lotion, may help to relieve itching and discomfort. The skin should be kept clean, and contaminated items should not be re-used. Non-disposable items should be washed in boiling water or otherwise disinfected before re-use. The person may need to be isolated while lesions are oozing to prevent infection of others, especially pregnant women.

Expectations (prognosis)

Herpes zoster usually clears in 2 to 3 weeks and rarely recurs. Involvement of motor nerves (nerves that control movement) may cause temporary or permanent nerve palsy (weakness or paralysis). Neuralgia (continued nerve pain) may persist for years in 50% of those over 60 years old who have shingles, particularly if the trigeminal nerve was affected. Eye lesions may lead to permanent blindness and require emergency medical care.

Complications

- Post herpetic neuralgia
- Secondary bacterial skin infections
- Recurrence (rare)
- Generalized infection, visceral organ lesions, encephalitis or sepsis in immunosuppressed persons
- Blindness (if lesions occur in the eye)
- Deafness
- Loss of taste
- Facial paralysis

Prevention

Avoid contact with the skin lesions of persons with known herpes zoster infection (shingles or chickenpox) if you have never had chickenpox or the chickenpox vaccine. This is especially true if your immune system is compromised. The chickenpox (varicella) vaccine is a recommended childhood vaccine. The vaccine may be recommended for teenagers or adults who have never had chickenpox. A recent large trial showed a significant reduction in the complications of shingles and incidence of postherpetic neuralgia in older adults who received the vaccine. Therefore, elderly adults (older than 60 years) should consider the vaccine as part of routine medical care.