

Chickenpox and Shingles

Chickenpox (varicella) is a viral infection caused by the varicella-zoster virus. Symptoms include slight fever and cold-like symptoms, followed by a rash. The rash appears as blisters which crust to form scabs (colour plate no.1). Crops of blisters may appear over several days and various stages of blisters may be present. The rash is more noticeable on the trunk than on the limbs and may affect the scalp and the inside of the mouth, nose, and throat. The rash is usually itchy.

In childhood, chickenpox is usually a mild illness and can be so mild it might not be noticed. Infection in adults is uncommon, since more than 95% of Australians get the infection in childhood, but infection in adults is more severe and may be complicated by pneumonia.

Chickenpox may be particularly severe in children with leukaemia, pregnant women and young babies. If chickenpox occurs in early pregnancy, the foetus may also be infected, resulting in congenital malformations in up to 2%. If it occurs around the time of delivery, the baby may become infected and up to 30% of newborns will become severely ill.

Chickenpox has a typical appearance and is usually diagnosed by clinical examination. A blood test can detect if someone has protection from chickenpox infection in the past, but the test may not be helpful in determining if there is adequate immunity to varicella following vaccination.

Chickenpox is spread when mucous membranes (lining of nose and mouth) come into contact with the virus in airborne droplets produced by coughing or sneezing, or with fluid from the blisters. Following infection, the virus will remain dormant (resting, as if asleep) in nerve cells of the spinal cord for the rest of the person's life. Reactivation of this virus causes shingles rather than a second attack of chickenpox.

Shingles (herpes-zoster) follows a previous chickenpox infection, usually several decades later. Shingles occurs when the body's immunity to the virus drops and the virus becomes active again after resting in the spinal cord. The elderly, children and adults being treated for cancer and persons infected with HIV virus are at greater risk of developing shingles.

A blistering rash, usually associated with severe pain, occurs on bands of skin overlying the area supplied by the spinal nerves carrying the dormant virus. The rash may be followed by persistent pain in the area, lasting for weeks.

The varicella-zoster virus is present in the shingles blister fluid. Direct contact with the blister fluid can cause chickenpox in a non-immune person. There is no airborne droplet spread from cases of shingles, except perhaps in some very severe cases of disseminated (widespread) shingles. Contact with chickenpox or shingles cannot lead to shingles in the exposed person since shingles can only follow the reactivation of a previous chickenpox infection.

Incubation period

(time between becoming infected and developing symptoms)

2 – 3 weeks, usually 14 – 16 days, but may be longer.

Infectious period

(time during which an infected person can infect others)

For chickenpox, from 2 days before the rash appears until at least 5 days after the rash first appears and all blisters have crusted over. For shingles, a person is infectious from when the rash appears until all blisters have dried up.

Treatment

Specific antiviral treatment for both chickenpox and shingles is available. Treatment is only given to those with severe disease or at risk of severe disease, and to be effective must be commenced early, usually within 24 hours of onset of the rash. Medical advice should be sought if:

- > a child or adult with chickenpox has a high fever, cough, shortness of breath, or chest pain
- > a pregnant woman has chickenpox
- > a newborn baby (up to one month of age) is exposed to chickenpox
- > a person over 50 years of age has shingles
- > chickenpox develops in a child or adult with an immune deficiency (including a history of leukaemia, even if in remission).

Chickenpox and Shingles (cont.)

For all cases, calamine lotion or promethazine [phenergan] (available from pharmacies) may be useful for the itch. If treatment to reduce temperature or discomfort is necessary, paracetamol is recommended.

! Aspirin should not be given to children or adolescents who have chickenpox or shingles.

Control of spread

- > Vaccination against varicella is recommended in the National Immunisation Program: South Australia for children at 18 months of age and for Year 8 students who have not previously had the vaccine or chickenpox infection. A few people who have been vaccinated may still get chickenpox, but the illness will usually be mild. A combination Measles-Mumps-Rubella-Varicella vaccine may become available in the near future.
- > Exclude persons with chickenpox from child care, preschool, school or work until all blisters have dried (usually about five days). Note that some remaining scabs are not a reason for continued exclusion.
- > Any person with an immune deficiency (for example, leukaemia) or receiving chemotherapy should be excluded from contact with a case of chickenpox or shingles for their own protection.
- > Wash hands after contact with soiled articles (tissues etc.). Keeping areas clean, especially where articles have been soiled with nose and throat discharges, will limit the spread of infection. Dispose of tissues appropriately.
- > Persons with shingles should cover the rash with a dry bandage to ensure that others are not exposed.

Control of spread cont.

- > Varicella-zoster immunoglobulin (VZIG) is made from blood products and contains antibodies to the varicella-zoster virus. VZIG is effective in preventing or reducing the severity of chickenpox if given to non-immune people within 96 hours of exposure to a case of chickenpox or shingles.

People at high risk of complications from chickenpox infection – for example, people with leukaemia, young babies or pregnant women - should seek medical advice regarding VZIG if they have been exposed to a person with chickenpox or shingles. Only people without a history of chickenpox, and with no evidence of immunity on blood testing, need to receive VZIG. VZIG is only of value if given before chickenpox occurs and is of no use in treatment of chickenpox or shingles.

- > Several studies have shown that varicella vaccine is effective in preventing varicella infection, particularly moderate to severe disease, following exposure. This is generally successful when given within three days, and up to five days, after exposure, with earlier administration being preferable (*Australian Immunisation Handbook 9th edn*).
- > A vaccine to prevent shingles has recently been licensed in Australia. It is recommended for adults aged 60 years and over.

! Varicella infection (chickenpox or shingles) is a notifiable disease

- > Immunoglobulin
- > Keeping Areas Clean
- > Immunisation
- > Human Immunodeficiency Virus Infection (HIV)