

SMALLPOX

General points on treatment

Smallpox is a disease caused by a virus of the pox group (variola virus). Smallpox infection was declared eradicated by WHO in 1979, following a vaccination campaign. The incubation period is 12 to 14 days. Symptoms are characterised by the appearance of a rash becoming resiculo-pustulatory, most prominent on the face, arms and legs. Death occurs in up to 30% of the cases. Smallpox is spread from one person to another by infected saliva droplets. Persons are most infectious during the first week of the illness.

At present, there is no proven treatment for smallpox. Therefore, patients must be managed solely with supportive therapy. Antibiotics may be useful for the control of secondary bacterial infections that may occur (1).

In people exposed to smallpox, the vaccine can lessen the severity of or even prevent illness if given within 4 days after exposure (1).

Encouraging initial reports in the 1960s describing the therapeutic benefits of the thiosemicarbazones, cytosine arabinoside, and adenine arabinoside but the results were later questioned and none of these early reports were confirmed in further studies (2).

Ribavirin and Cidofovir have been proposed as possible candidates for the treatment of smallpox (3).

In two reports (4,5), Cidofovir (Vistide®), which has been approved via the EU centralised procedure for the treatment of cytomegalovirus retinitis in immunocompromised patients, was also found to protect mice, again when given as a single dose, against a lethal aerosolised or intranasal cowpox virus challenge. However, the potential utility of this drug in post-exposure prophylaxis is limited, given the fact that it must be administered intravenously and its use is often accompanied by serious renal toxicity (2).

Ribavirin has a broad antiviral spectrum (6) that includes small pox virus but no recommendations on treatment for small pox can be made for Ribavirin or for Cidofovir at the present time.

Recommendations are compiled from references 1-6.

References

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4. De Clercq E. Vaccinia virus inhibitors as a paradigm for the chemotherapy of poxvirus infections. Clin Microbiol Rev. 2001 Apr;14(2):382-97. Review.
5. Bray. M et al: Cidofovir protects mice against lethal aerosol or intranasal cowpox virus challenge. J Infect Dis. 2000 Jan;181(1):10-9.
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