

A severe atypical measles syndrome was observed in recipients of a formalin-inactivated measles vaccine (used in the United States from 1963 to 1967 and in Canada until 1970) who were subsequently exposed to wild-type measles virus. The atypical rash began on the palms and soles and spread centripetally to the proximal extremities and trunk, sparing the face. The rash was initially erythematous and maculopapular but frequently progressed to vesicular, petechial, or purpuric lesions.

■ DIFFERENTIAL DIAGNOSIS

The differential diagnosis of measles includes other causes of fever, rash, and conjunctivitis, including rubella, Kawasaki disease, infectious mononucleosis, roseola, scarlet fever, Rocky Mountain spotted fever, enterovirus or adenovirus infection, and drug sensitivity. Rubella is a milder illness without cough and with distinctive lymphadenopathy. The rash of roseola (exanthem subitum) (see Fig. A1-5) appears after fever has subsided. The atypical lymphocytosis in infectious mononucleosis contrasts with the leukopenia commonly observed in children with measles.

■ DIAGNOSIS

Measles is readily diagnosed on clinical grounds by clinicians familiar with the disease, particularly during outbreaks. Koplik's spots are especially helpful because they appear early and are pathognomonic. Clinical diagnosis is more difficult (1) during the prodromal illness; (2) when the rash is attenuated by passively acquired antibodies or prior immunization; (3) when the rash is absent or delayed in immunocompromised children or severely undernourished children with impaired cellular immunity; and (4) in regions where the incidence of measles is low and other pathogens are responsible for the majority of illnesses with fever and rash. The CDC case definition for measles requires (1) a generalized maculopapular rash of at least 3 days' duration; (2) fever of at least 38.3°C (101°F); and (3) cough, coryza, or conjunctivitis.

Serology is the most common method of laboratory diagnosis. The detection of measles virus-specific IgM in a single specimen of