Roseola Infantum (Exanthema Subitum)

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Essentials of diagnosis & typical features:

- High fever in a child aged 6–36 months.
- Minimal toxicity.
- Rose-pink maculopapular rash appears when fever subsides.

General Considerations

Roseola infantum is a benign illness caused by human herpesviruses 6 (HHV-6) or 7 (HHV-7). HHV-6 is a major cause of acute febrile illness in young children. Its significance is its ability to mimic more serious causes of high fever and its role in inciting febrile seizures.

Clinical Findings:

The most prominent historical feature is the abrupt onset of fever, often reaching 40.6 °C, which lasts up to 8 days (mean, 4 days) in an otherwise mildly ill child. The fever then ceases abruptly, and a characteristic rash may appear. Roseola occurs predominantly in children aged 6 months to 3 years, with 90% of cases occurring before the second year. It is the most common recognized cause of exanthematous fever in this age group and is responsible for 20% of emergency room visits by children aged 6–12 months.

Symptoms and signs:

Mild lethargy and irritability may be present, but generally there is a dissociation between systemic symptoms and the febrile course. The pharynx, tonsils, and tympanic membranes may be injected. Conjunctivitis and pharyngeal exudate are notably absent. Diarrhea and vomiting occur in one third of patients. Adenopathy of the head and neck often occurs. The anterior fontanelle is bulging in one quarter of HHV-6-infected infants. If rash appears (10–20% incidence), it begins on the trunk and spreads to the face, neck, and extremities. Rose-pink macules or maculopapules, 2–3 mm in diameter, are nonpruritic, tend to coalesce, and disappear in 1–2 days without pigmentation or desquamation. Rash may occur without fever.

Laboratory findings:

Leukopenia and lymphocytopenia are present early. Laboratory evidence of hepatitis occurs in some patients, especially adults.

Differential Diagnosis:

The initial high fever may require exclusion of serious bacterial infection. The relative well-being of most children and the typical course and rash soon clarify the diagnosis. The erythrocyte sedimentation rate is normal. If the child has a febrile seizure, it is important to exclude bacterial meningitis. The CSF is normal in children with roseola. In children who receive antibiotics or other medication at the beginning of the fever, the rash may be attributed incorrectly to drug allergy.

Complications & Sequelae:

Febrile seizures occur in 10% of patients. There is evidence that HHV-6 can directly infect the central nervous system, causing meningoencephalitis or aseptic meningitis. Multiorgan disease (pneumonia, hepatitis, bone marrow suppression, encephalitis) may occur in immunocompromised patients.

Treatment & Prognosis:

Fever is managed readily with acetaminophen and sponge baths. Fever control should be a major consideration in children with a history of febrile seizures. Roseola infantum is otherwise entirely benign.