Skin eruptions in children: drug hypersensitivity or viral exanthema?

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Abstract

Childhood rashes or exanthemas are common and are usually relatively benign. There are many causes of rash in children, including mainly viruses, and less often bacterial toxins, drugs, allergens, and other diseases. Viral exanthema often appears while children are taking a medication in the course of a viral infection; it can mimic drug exanthema, and is perceived as a drug allergy in 10% of cases. The drugs most commonly implicated are beta-lactams (BL) and nonsteroidal anti-inflammatory drugs (NSAIDs). Viruses, commonly Epstein Barr virus (EBV), human herpesvirus 6 (HHV6) and cytomegalovirus (CMV), and the bacterium Mycoplasma pneumoniae, may cause exanthema either from the infection itself (active or latent) or because of interaction with drugs that are taken simultaneously. Determination of the exact diagnosis requires a careful clinical history and thorough physical examination. Haematological and biochemical investigations and histology are not always helpful in differentiating between the two types of exanthema. Serology or polymerase chain reaction (PCR) can be helpful, although a concomitant acute infection does not exclude drug hypersensitivity. A drug provocation test (DPT), although considered the gold standard for the diagnosis, is not preferred by the patients. Skin tests are not well tolerated, and in vitro tests, such as the basophil activation test and lymphocyte transformation, are of low sensitivity and specificity and their relevance is debatable. Based on current evidence, we propose a systematic clinical approach for timely differential diagnosis and management of rashes in children who present a cutaneous eruption while receiving a drug.

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