10-minute consultation

Morbilliform rash

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A 2 year old boy presents with a three day history of fever and morbilliform rash. His parents are worried about the possibility of meningitis.

What issues you should cover

Address the parents' concerns about meningitis—A non-blanching rash may be a crucial sign, but in the evolving stages of meningococcal disease the rash may be blanching and maculopapular. Other important features in recognising meningococcal disease are poor eye contact, irritability, lethargy and lack of interest, vomiting, stiffness in the neck (though this may not be seen in infants), pallor, tachycardia, and prolonged capillary refill.

History of symptoms—Ask about the duration and height of the fever and the sequence of fever and rash development. A rash that appears as the fever resolves is typical of roseola infantum. In erythema infectiosum "slapped cheeks" and a lace-like rash may occur up to a week after fever.

Vaccination history—Having had a measles, mumps, and rubella (MMR) vaccination makes a diagnosis of measles or rubella less likely but does not exclude it. The rash may be due to a recent MMR vaccination.

Contact history—Is there a history of recent contact with another child with a fever or rash? Which infectious diseases are common in the local community? Local and national surveillance information may help in making a diagnosis. Ask about any close contact with a pregnant woman. Rubella and parvovirus B19 (which causes erythema infectiosum) may damage an unborn child. Enteroviruses and adenoviruses (respiratory infection) are other viral causes of rashes. Also take a travel history and consider relevant diseases. Measles is endemic in many parts of the developing world. Mediterranean spotted fever leads to fever, rash, and a necrotic area (eschar) at the site of the tick bite.

Indicative clinical signs—Specific features on examination make particular diagnoses more certain: Koplick's spots indicate measles; post-auricular and suboccipital lymphadenopathy indicate rubella; and strawberry tongue and circumoral pallor indicate scarlet fever.

Consider Kawasaki disease—Aside from rash and fever, signs of Kawasaki disease include non-purulent conjunctival injection, changes in peripheral extremities, oral mucosal changes, and cervical lymphadenopathy.

What you should do

- If you suspect meningococcal disease treat the boy with intravenous or intramuscular penicillin (infant 300 mg, 1 to 9 years 600 mg, over 10 years 1.2 g). If it is available, chloramphenicol may be used if he has a history of penicillin anaphylaxis. The critical action is to refer him immediately to hospital.
- If you suspect Kawasaki disease, refer him urgently for treatment with aspirin and intravenous immunoglobulin to prevent serious complications such as coronary artery aneurysms.
- Meningococcal infection, measles, rubella, and scarlet fever are notifiable diseases. If you suspect either measles or rubella, arrange for saliva samples for antibody tests to be taken two to three weeks after the onset of the rash. Salivary kits may be obtained from the local consultant in communicable disease control.
- Advise the parents that he should not go to nursery or playgroup until he is well.
- If you suspect measles, look for signs of secondary complications such as pneumonia.
- If group A streptococcus is the clinical diagnosis, take a throat swab.
- If he has been in close contact with a pregnant woman, contact your local laboratory and ask them to check serum IgG concentrations for rubella and parvovirus B19. More than 98% of children vaccinated against rubella are immune, and 60% have developed immunity to parvovirus B19 through exposure at some time in the past. If serology is negative the pregnant woman should see an obstetrician. Early intervention for parvovirus induced hydrops foetalis may be critical.
- Effective communication with the parents is essential if you think the boy has a self limiting illness. Explain the importance of fluid maintenance and recommend antipyretic drugs. Tell the parents that you are happy to review his case if any deterioration occurs or within 72 hours if no signs of clinical improvement are shown.

P+ *A list of diseases and their typical clinical features is on bmj.com*

Useful reading

Ramsay M, Reacher M, O'Flynn C, Buttery R, Hadden F, Cohen B, et al. Causes of morbilliform rash in a highly immunised English population. *Arch Dis Child* 2002;87:202-6

Granier S, Owen P, Pill R, Jacobson L. Recognising meningococcal disease in primary care: qualitative study of how general practitioners process clinical and contextual information. *BMJ* 1998;316:276-9

Endpiece

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Tolle E. *The power of now.* London: Hodder and Stoughton, 2001

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This is part of a series of occasional articles on common problems in primary care

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