



“Slapped cheek” appearance of *fifth disease*

PIC QUESTION OF THE WEEK: 4/9/07

Q: What is fifth disease and how is it treated?

A: Parvovirus B19 is a small, single-stranded DNA virus and member of a large family (Parvoviridae) of viruses identified in the 1970s. It is responsible for a variety of clinical conditions including arthropathy, red cell aplasia, aplastic crisis, hydrops fetalis, and a unique dermatologic reaction affecting the hands and feet referred to as gloves and socks syndrome. The most common of the parvovirus B19 infections is known as erythema infectiosum (EI) or *fifth disease*. Fifth disease is frequently seen in children and identified by an erythematous rash of the cheeks that resembles their appearance after someone is slapped in the face. Thus, the expression *slapped-cheek* rash is often applied to this disorder. The name fifth was selected because this was the fifth of the childhood rash-associated diseases identified in the late 19th and early 20th centuries. Some of the others were rubella, measles, scarlet fever, atypical scarlet fever, and roseola infantum. The erythroid progenitor cells seem to be the major target of this virus. EI is a contagious viral illness and much more common in children than adults. The virus is spread through respiratory droplets and transmission is considered highest during the week prior to onset of symptoms. By the time the rash appears, the virus is no longer communicable. This occurs because most signs and symptoms are due to immune complex formation and deposition rather than actual viremia. On occasion, children may develop arthropathy; however, joint involvement secondary to parvovirus B19 is more common in adults. A prodromal illness consisting of mild fever, headache, nausea, etc. may precede the onset of rash. The rash usually develops in three phases. A mild to prominent erythematous rash appears on the cheeks and normally persists for a few days to ≥ 1 week. A second phase then appears and may extend from 2 to 5 days. This second stage is usually described as an erythematous, maculopapular rash on the trunk and limbs. As the eruption fades, it may result in a reticular or lacy appearance. This stage of EI may last for 1-6 weeks. In some patients, transient recurrence of this phase may be seen for an additional few weeks. Fifth disease is a self-limited condition and rarely requires drug therapy. NSAIDs may be indicated if arthralgia is present.

References:

- Servey JT, Reamy BV, Hodge J. Clinical presentations of parvovirus B19 infection. *Am Fam Physician* 2007;75:373-6.
- Brown KE. Parvovirus B19. In: Mandell GL, Bennett JE, Dolin R, eds. *Principles and practice of infectious diseases*. 6th ed. Philadelphia: Elsevier; 2005:1891-8.
- American Academy of Pediatrics. 2006 Report of the Committee on Infectious Diseases (The Red Book). Elk Grove Village: American Academy of Pediatrics; 2006.

Robert M. Tobin, Pharmacy Clerkship Student

The PIC Question of the Week is a publication of the Pharmaceutical Information Center, Mylan School of Pharmacy, Duquesne University, Pittsburgh, PA 15282