

## Answers to Medical Quiz

A1. A maculo-papular erythematous rash involving the cheeks giving the "slapped - cheek" appearance.

A2. Differential diagnosis includes:

1. Erythema infectiosum (Fifth Disease)
2. Rash associated with lupus erythematosus
3. Malar flush observed in some patients with mitral heart disease; systemic lupus erythematosus facial rash.
4. Sunburn, drug eruptions
5. Rubella, measles and scarlet fever
6. Enteroviral diseases including Echoviruses and some coxsackievirus infections

A3. The most likely diagnosis is erythema infectiosum (fifth disease).

This is a moderately contagious disease affecting mainly children. It is called "fifth disease" because it was the fifth of five illnesses described exhibiting somewhat similar rashes. The other four diseases were Rubella, Rubella and Filator - Dukes disease (a mild atypical form of scarlet fever) and scarlet fever.

The agent of the disease is thought to be a single stranded DNA virus called parvovirus B19. During outbreaks IgM anti-bodies against parvovirus were found in the patients clinically diagnosed to have fifth disease. This virus infects humans only.

The characteristic rash appears in three stages. The illness begins with sudden appearance of a maculo-papular erythematous rash on the face giving the appearance of a "slapped cheek". A similar rash appears subsequently on the trunk

and extremities. The rash lasts for an average of 10 days but fades away in 2 days or lasts for over 3 weeks. The rash is usually pruritic but resolves without desquamation.

Complications are rare. Arthritis, hemolytic anaemia, pneumonitis and encephalopathy have been reported.

No isolation is required and there is no specific treatment.

Infection with parvovirus B19 besides the "fifth disease" can also cause aplastic crisis in patients with red blood cell abnormalities (such as sickle cell disease and autoimmune hemolytic anaemia) leading to shortened red blood cells half-lives. Patients with aplastic crisis due to this virus appear to be contagious from the onset or before the onset of acute illness. In contrast, patients with erythema infectiosum are likely to be contagious before onset of clinical symptoms and have little or no virus in respiratory secretions at the time of rash.

Recent outbreaks of "fifth disease" have caused concern among pregnant women because of the risk of spontaneous abortion caused by this viral infection. Maternal parvovirus B19 infection, with or without rash, can affect fetuses. Well-documented cases of fetal hydrops and death following parvovirus B19 infection of the mother have been reported.

### REFERENCES

1. Balfour H. Fifth disease: Full Fathom Five. *Am J Disease* 1976;130:239.
2. Anderson MJ, Jones SE, Fisher-Hoch SP, et al. Human Parvovirus, the cause of erythema infectiosum (fifth disease). *Lancet*, 1983.
3. Committee on infectious diseases. Parvovirus, Erythema infectiosum and Pregnancy. *Amer Acad Pediatr*.