

PARVOVIRUS B19

(Erythema infectiosum, 5° esantemic illness)

THE VIRUS

The parvovirus B19 is a virus of the Parvoviridae family, and it belongs to the Erythrovirus genus. It's a single filament of DNA virus and it doesn't have the viral envelope. The virus reproduces in the spinal cord in precursors of the red blood cells, which are here destroyed. This takes in the viral phase (influenza) to a reduction of reticulocyte and red blood cells and of the hemoglobin's concentration. Thanks to the infection which provokes the death of red blood cells, it's observed a stop of the erythropoiesis, that in subjects with a non-regular spinal cord functionality (such as in chronic blood anemia) can take to the aplastic crisis. This manifestation observes a loss of hemoglobin's level, a disappearance of reticulocyte in blood and a red blood cells' hypoplasia in the bone marrow. Thrombocytopenia and neutropenia can add to the clinical manifestation of the infection. In this case a rapid therapy is necessary.

CLINICAL MANIFESTATION

The parvovirus B19 is the cause of the fifth illness or erythema infectiosum, which is a innocuous blistering. Even though the parvovirus B19 infection is often asymptomatic, after an incubation of about 7-14 days, it appears an often not specific symptomatology, which can goes on for a week. However, every infections, even an asymptomatic one, can take to complications, such as arthritis (lesion provoked by immune complexes). In adult age the percent of these possible complications increase up to 35% in men and to 85% in women.

An infection during the pregnancy, in the first trimester, lays the fetus on the line (up to 40% of cases) to contract the infection through the placenta of the virus. An intrauterine infection can take in 20% of cases to an uterine death or to the hydrops fetalis. Another manifestation is the aplastic fetal anemia. It's important to observe that from the maternal infection to fetal complications can pass from 2 to 8 weeks. Normally, the antibody's answer is rapid and efficacy. It results inadequate in immune-depressed patients (for many reasons, such as the chemotherapy treatment, HIV infections or congenital), that takes to the chronic anemia. The virus is usually eliminated from the host's immune system, but it can stay in the organism as latent form. Indeed, persistent infections are found in patients with articular problems and with chronic anemia. Latent infections often reactivate with immunodeficiency (organ transplant, chemotherapy, HIV).

EPIDEMIOLOGY

The parvovirus B19 is the cause of the fifth illness or erythema infectiosum, which is a innocuous blistering.

It's about a illness, which is normally contracted during the childhood. At the adult age there's a serum-prevalence of about the 70%.

People who have antibodies IgG in their blood are considered immune, even if it can't exclude a new infection.

TEST

Amplification by means of PCR of a fragment from the region VP1/2.

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Further information or bibliographic references can be asked to the laboratory.

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SAMPLE TAKING

Serum, EDTA plasma, liquor, amniotic liquid.

EXECUTION

Daily.

COST

According to the federal charge rate of the analyses (3146.00) TP 180.

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