

Varicella Zoster

General:

Together with HSV, VZV belongs to the family of herpesviridae. Complete VZV-virus particles can be seen in the electron microscope in vesicle contents of patients with varicella (chicken-pox) or herpes zoster (shingles). VZV virus has the smallest genome (DNA) of the herpes viruses with 125 kilo base pairs and persists lifelong in spinal ganglions after primary infection. The incubation period is 11-21 days until the exanthema occurs. Infections with VZV usually proceed as varicella (primary infection) or zoster (endogenous reactivation). Approx. 4-5 days after appearance of the exanthema IgM antibodies are detectable. Rare complication: pneumonia.

Further rare complications: varicella encephalomeningitis, arthritis, nephritis, cystitis, eye participation, carditis, gastrointestinal bleeding, children with leukemia tend to disseminate symptoms. Endogenous reactivation by different provocation factors possible: traumas, operations, malignant neoplasm, immunosuppressive therapy, stress etc.

VZV in pregnancy: Varicella can cause embryopathy (0.1 to 0.7/1000 pregnancies) in the first and second trimester with deformities (fetal or congenital varicella syndrome), however, approx. 95% of the women are immune with detectable VZV-IgG antibodies.

Prophylaxis and diagnostics in pregnancy (after 12 th week of pregnancy): Blood collection immediately after contact of seronegative mother (IgM and IgG negative). In case of contact of a seronegative mother in early or late pregnancy, hyperimmunoglobulin injection within 24-72 h is recommended. It is not recommended to give hyperimmunoglobulin in already clinically manifested exanthema in early pregnancy.

Perinatal infection: An infection of the mother 1-2 weeks before delivery up to and including 2 days after birth can be dangerous for the newborn. A passive immunization of the newborn is possible.

The following tests are available:

- **Varicella zoster IgM antibodies in serum**

Indication: Suspicion of acute VZV infection

Material: 1 ml serum

TAT: 5-7 days*

Method: LIA

Units: Index

Ref.- range: <1

• Varicella zoster IgA antibodies in serum

Indication: suspicion of acute reactivation of a VZV infection (Herpes zoster)

Material: 1 ml serum

TAT: 5-7 days*

Method: EIA

Units: Index

Ref.- range: < 9 borderline: 9 - 12

Note: This examination is only convincing with VZV-CBR and VZV-IgG

• Varicella zoster IgG antibodies in serum

Indication: Immunity situation, reactivation (Herpes Zoster)

Material: 1 ml serum

TAT: 5-7 days*

Method: LIA

Units: mIU/mL

Ref.- range: <100

• Varicella zoster antibody screening

Indication: Suspicion of VZV infection in pregnancy, suspicion of secondary reactivation (zoster).

Material: 1 ml serum

TAT: 5-7 days*

Method: CBR

Units: Titer

Ref.- range: <1:8

• Varicella zoster DNA in blood

Indication: clarification of infections, infectiosity, virus persistence

Material: 2 ml EDTA blood

TAT: 5-7 days*

Method: PCR

Ref.- range: see report

Note: Cross-reactions in serological tests with VZV and HSV occur! We recommend performing the more specific PCR investigation in special cases (pregnancy, meningitis etc.)



- **Varicella zoster DNA in CSF, amniotic fluid, vesicles**

Indication: clarification of infections, infectiosity, virus persistence

Material: 1 ml CSF, vesicle fluid, amniotic fluid

TAT: 5-7 days*

Method: PCR

Ref.- range: see report

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit
<http://www.fml-dubai.com/parameter-listings/>