

# Blood-borne diseases

In **blood-borne diseases**, the infectious agent enters the body directly through blood, blood derivatives or contaminated instruments and devices during medical procedures. Transmission can also occur through secretions during sexual intercourse and breast milk. The source of infection is an infected person, or carrier. Etiological agent:

1. viruses: viruses hepatitis B (+D) a C viruses, cytomegalovirus, virus EBV, HIV,
2. bacteria: *Treponema pallidum*,
3. parasites: *Toxoplasma gondii*, Plasmodium malariae,

The source of infection is a person or an animal (patient or carrier). Blood-borne diseases also include transmissible diseases – diseases transmitted by means of a vector. We distinguish the following **types of transmissible infections**:

- typ hepatitis B,
- typ plague type,
- typ malarial type,
- typ a type of typhoid fever.

## Hepatitis B

Also called **serum hepatitis**, it is caused by the hepatitis B DNA virus of the *Hepadnaviridae* family, which has a marked tropism for liver cells. The tendency to persist in the organism induces the emergence of chronic hepatitis, diseases from immune complexes, cirrhosis of the liver and hepatocellular carcinoma (HCC). It occurs most often in 15-20-year-olds, has due to mandatory vaccination in the health sector and positive education (drugs) downward trend. People infected with HBV can develop HDV - delta agent, an RNA virus that causes severe hepatitis with a fulminant course in these people. In co-infection with HDV and HBV, hepatitis has a milder initial course and the acute infection is more often overcome without consequences. It then usually leads to chronic HDV carriage and to development of cirrhosis in up to 80% cases.

### Prevention

Examination of blood donors (HbsAg), hemodialysis patients and vaccination of health workers in advance, in the case of HbsAg+ mothers, vaccinate newborns within 24 hours after birth. Today, all children are vaccinated (with the hexavaccine).

## Hepatitis C

HCV is an enveloped RNA virus from the flavivirus family. The symptoms of the disease are similar to those of other hepatitises, but the transition to chronicity and the development of HCC is much more common (up to 80% of cases). The incubation period is 7-8 weeks. In most infected diseases, it progresses as chronic active hepatitis with gradual development of cirrhosis and HCC. There is no vaccination.

## AIDS

HIV 1, 2 are retroviruses with a tropism towards cells bearing the CD4 molecule on their surface, which is their specific receptor. The greatest concentration of CD4 molecules is found in the plasma membrane of Th lymphocytes. Each immunological activation of resting lymphocytes containing the provirus leads to a massive multiplication of viruses, which leads to the destruction of Th cells (decrease of Th from the amount of 1000 bb./μL to 200 bb./μL and less), the complete failure of the organism's defenses and the development of AIDS. Development of opportunistic infections: *Pneumocystis carinii*, atypical mycobacteria, legionella, toxoplasma, cryptococci, etc.

### Risk groups

- homosexuals, promiscuity, drug addicts, patients after transfusion.

### Prevention

Examination of Ig in blood donors (anti-HIV 1,2).

## Links

### Related articles

- Hepatitis B

- Hepatitis D
- Hepatitis C
- AIDS
- Botulism
- Toxoplasmosis
- Gonorrhea
- Transmission of infectious agents
- Vnímavý organismus v procesu šíření nákazy
- Source of infection

## References

- 
- 
- 

Kategorie:Epidemiologie