

# Salmonellosis

**Salmonellosis** is one of the most common diarrheal diseases in children and adults. There are more than 2,000 serotypes of *Salmonella*. *Salmonella enteritidis* and *S. typhimurium* most commonly cause disease in humans in our conditions. The source of infection is animals, birds and their products - meat and eggs. These are therefore anthroozoonoses. GIT symptoms dominate.

Few salmonellae are exclusively adapted to humans – these include *S. typhi*, *S. paratyphi A* and *S. paratyphi C*. Their typical symptom is fever [1].

## Etiology and epidemiology

The source of infection is an infected animal, rarely a human. The vehicle of infection is **contaminated food** - insufficiently processed meat and egg products (mayonnaise, egg creams, ice cream, meatloaf, pudding, etc., especially those of unknown or unreliable origin). **The infectious dose is high** (10<sup>6</sup> - 10<sup>9</sup> live microbes are necessary for infection). Newborns, infants and people with reduced stomach acidity are more susceptible, in whom a significantly lower amount of microbes is sufficient for infection. Direct transmission from person to person is unlikely and occurs only in the case of very gross defects in personal hygiene or in persons with a low level of immunity.

Currently, along with campylobacter enteritis, salmonellosis is one of the most common foodborne infections. The incidence of salmonellosis in the Czech Republic has been around 100 cases/100,000 inhabitants since 2010 (peak in 1995 – about 500 cases/100,000 inhabitants [2]). The current state is probably also the result of appropriate animal hygiene measures, including poultry vaccination [3].

The infection has a typical seasonal course with a peak in the summer months. The most affected age category is children under 5 years of age.

**The incubation period is 8-48 hours** (mostly 10-12 hours) [1].



Salmonella Bacteria

## Clinical picture

- Nausea, vomiting, fever, watery to green stools,
- twisting and pain in the abdomen,
- with prolonged dehydration there is a risk of extrarenal uremia or even death,
- in the immunocompromised, a typhoid course may occur - fevers dominate,
- organs may rarely be affected - osteomyelitis, endocarditis or abscesses in soft tissues,
- *Salmonella* shedding can persist for weeks to months [1].

## Therapy

- Rehydration, adjustment of mineral metabolism,
- antibiotics are not suitable - they usually prolong the time of excretion of salmonella,
- a disinfectant (*Endiaron*®) or an adsorbent containing kaolin (*Smecta*®) can be administered,
- agents that slow down peristalsis are **contraindicated**
- with persistent positivity in convalescence, event. carriers working in the food industry can be given fluoroquinolones - **⚠ they are contraindicated in children**
- in case of typhoid course or organ manifestations, hospitalization and intensive ATB treatment (chloramphenicol, third-generation cephalosporins, possibly fluoroquinolones) are necessary.

## Links

## References

1. HRODEK, Otto – VAVŘINEC, Jan. *Pediatric*. 1. edition. 2002. pp. 607-608. ISBN 80-7262-178-5.
2. . *Infekční nemoci 2011* [online]. UZIS ČR, 2012. Available from <<http://www.uzis.cz/system/files/infnem2011.pdf>>. ISBN 978-80-7280-981-3
3. ŠATRÁN, Petr – DUBEN, Josef. *Nákazy zvířat přenosné na člověka a bezpečnost potravin* [online]. 1. edition. UZPI, 2006. Available from <<http://www.bezpecnostpotravin.cz/UserFiles/File/Nakazy%20zvirat%20prenosne%20na%20loveka.pdf>>. ISBN 80-7271-180-6.