

Rickettsioses

Rickettsia – obligate intracellular parasites, they belong more to bacteria.

Typhoid fever (typhus exanthemicus)

- originator: ***Rickettsia prowazekii*** (described by prof. Prowazek, a Czech-borne)
- symptoms: high fever, headaches and maculopapular rash
- if the patient is reinfected, the symptoms are less severe – Brill-Zinsser disease
- source: Blood of the infected person
- transmission: body louse, mostly through its bites, which itch; rickettsia are in their feces, penetrate bites or through excoriations; it can also be infected by inhaling dust with this dung
- incubation period: 10–14 days

Pathogenesis

- the bacteria multiply in endothelium, which then proliferates and microthrombus formation occurs
- perivascular infiltration neutrophils, macrophages and lymphocytes (spot nodule)
- it mainly affects the CNS, myocard and skin

Clinical picture

- sudden fever, chills and severe headaches
- tachycardia, hypotension, hearing loss, photophobia and dry cough
- pharyngitis and meningeal syndrome
- 4.–7. day the exanthema occurs, which may disappear, but more often hemorrhages, resulting in dark brown buds (first on the chest, omitting the face, palms and soles)
- after the appearance of the rash, deterioration occurs - stupor, delirium (the patient doesn't want to lie down and often tries to escape from his bed), urinary and stool incontinence
- 9.–19. day may end in death, otherwise the condition will improve within 14 days
- KO: leukopenia, aneosinophilia

Complications

- bronchopneumonia, otitis media, purulent parotitis, furunculosis, thrombosis

Diagnosis

- epidemiological situation + clinical picture + Ig
- immunity remains after infection, but the infection often persists latently in humans and later manifests itself as Brill-Zinsser disease if the patient is weakened

Prognosis

- before the era of ATB mortality was 20–40% (high mortality was, for example, after the outbreak of the epidemic in the Terezín concentration camp^[1]), with a timely administration of ATB the mortality radically fell to 1 %
- cured does not leave consequences, in children the course is milder

Therapy

- chloramfenicol, tetracyclines

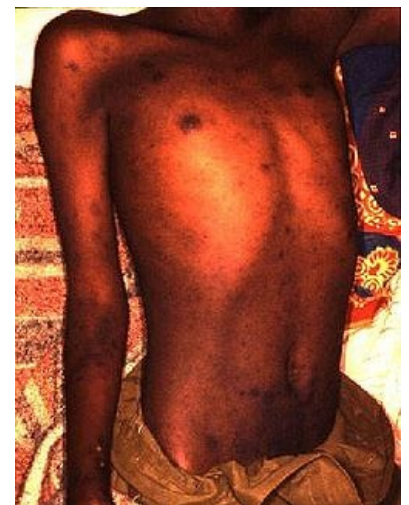
Rattle (endemic typhus)

- originator: *Rickettsia typhi*
- reservoir: rats
- transmission: flea
- typically an illness of people employed in warehouses and ports

Clinical course

- like a milder case of typhoid fever, complications occur rarely

Rocky mountain spotted fever



Typical typhoid rash

- originator: *Rickettsia rickettsii*
- reservoir: vertebrates
- carrier: Tick
- 4-8 days after tick bite, general symptoms are visible, maculopapular efflorescence on the wrists is apparent
- the course is often severe, vascular system involvement, lethality 5%

African tick fever

- in the Mediterranean
- originator: *Rickettsia conori*
- transmission: ticks parasitizing on dogs (often a black spot at the site of the tick's bite)

Rickettsian smallpox

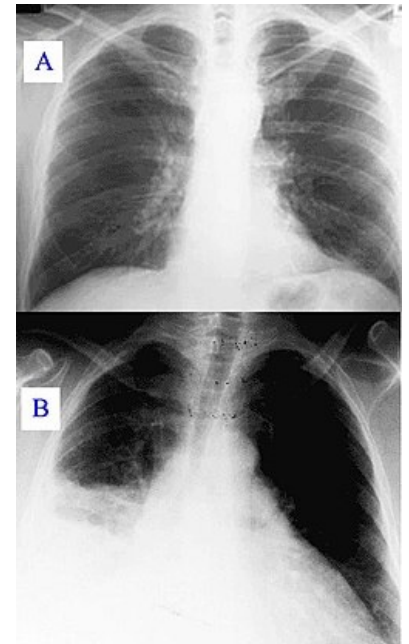
- pathogenic agent: *Rickettsia akari*
- transmission: mites
- sources: rodents
- general symptoms with maculopapular rash

Q fever

- originator: *Coxiella burnetii* (original name *Rickettsia burnetii*); when it was discovered, its originator was not known, so Q (query)
- acute febrile illness, sudden onset, headaches, atypical pneumonia
- sources: rodents, birds
- transmission: Ticks, to another animal (sheep, goats); sick animals have rickettsiae in milk, urine, airway secretion; transmission to humans takes place either through direct contact with animals or during the processing of products from infected animals

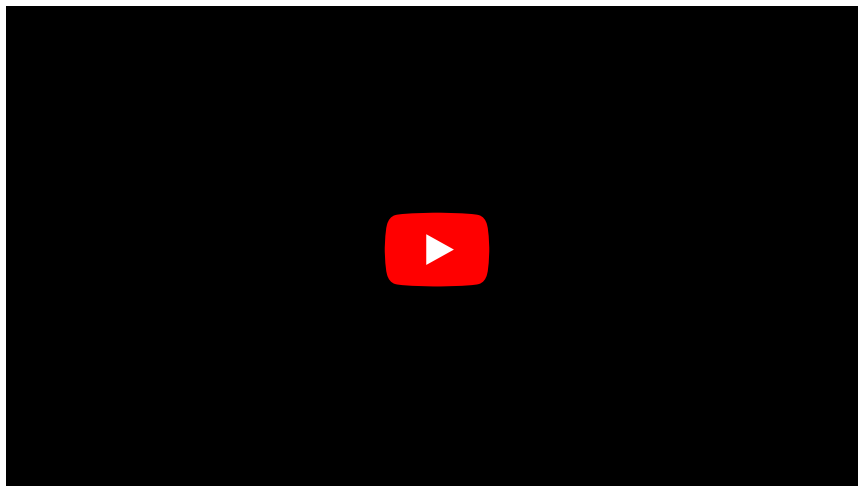
Clinical picture

- sudden onset with a fever and headaches
- fifth day: dry cough, chest pain, physical findings mostly inconclusive; atypical pneumonia perihilarly visible on X-ray (can also resemble carcinoma in older patients)
- for further details: Q fever



A: Normal chest X-ray, B: Q fever caused atypical pneumonia

Summary video



Links

Related articles

- Typhoid fever
- Bacterial gastroenteritis

References

1. ČESKÁ TELEVIZE, . *V Terezíně se umíralo i po osvobození – nacisty vystřídal tyfus* [online]. [cit. 2018-03-

13]. <<https://ct24.ceskatelevize.cz/domaci/1526936-v-terezine-se-umiralo-i-po-osvobozeni-nacisty-vystridal-tyfus>>.

Sources

- BENEŠ, Jiří. *Studijní materiály* [online]. [cit. 2009]. <<http://jirben.wz.cz>>.

Used literature

- HAVLÍK, Jiří, et al. *Infektologie*. 2. edition. Praha : Avicenum, 1990. 393 pp. ISBN 80-201-0062-8.
- LOBOVSKÁ, Alena. *Infekční nemoci*. 1. edition. Praha : Karolinum, 2001. vol. 263. ISBN 80-246-0116-8.

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