

# Brain abscess

The **cerebral abscess** (abscessus cerebri) is an inflammatory process directly within the brain parenchyma.

## Penetration of inflammation

Inflammation can go to the brain:

- directly through the bone in chronic inflammation of the paranasal sinuses and middle ear
- penetrating craniocerebral injury or post-traumatic cerebrospinal fluid
- hematogenous transmission from a distant inflammatory deposit (chronic bronchitis, bronchiectasis and lung abscess, infectious endocarditis, in a young patient it can be HIV infection, immunodeficiency or drug abuse)

## Pathogens

Brain abscess can be caused by *Staphylococcus epidermidis*, *Staphylococcus aureus* (post-traumatic abscess), mixed flora incl. anaerobes, enterobacteria.

## Symptoms

Symptoms are usually non-specific, but they can also be intracranial hypertension (headaches, mental changes, disorder of consciousness) or focal neurological deficit.

## Diagnostics

- the anamnesis is important
- CT, MRI (collagen hyperdense capsule and hypodense center with pus)

## Differential diagnostics

- metastasis
- glioblastoma
- hematoma

## Laboratory finding

Uncharacteristic, blood culture often negative, there may be leukocytosis in the blood count, CSF examination is abnormal in 90% of cases, but uncharacteristic.

## Therapy

Microbiological examination of the puncture and subsequent targeting of ATB treatment is important, samples are sent for examination for aerobic and anaerobic cultures, fungal and TB (tuberculosis) examinations.

## Surgical treatment

Puncture of the abscess and suction of its contents. In the case of a large abscess on the surface of the brain, open resection (including capsule)

- The capsule is a barrier preventing the achievement of effective ATB concentrations within the abscess → ATB treatment

## ATB treatment

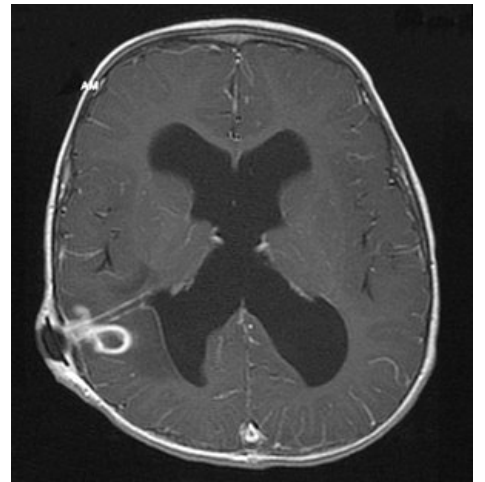
Long-term, 2–4 months, with the intravenous phase lasting 6 weeks, the effect of treatment is checked by repeated CT examinations.

## Lethality

Today, the lethality is around 10%. Neurological deficit or epilepsy persists in 30% of patients after successful treatment.

## Links

## Related articles:



Brain abscess

- Meningitis purulenta
- Viral infections of the nervous system

## References:

- SAMEŠ, M, et al. *Neurochirurgie*. 1. vydání. Praha : Jessenius Maxdorf, 2005. ISBN 80-7345-072-0.