

TBE – Clinical picture and long-term damage

TBE is an acute viral disease transmitted by ticks, in the first instance affecting the central nervous system (in particular the cerebrum, brainstem and upper regions of the spinal cord). It may have a mild course, but can also follow a very severe course with long-term sequelae. If it also affects the nerve roots, radiating pain is an additional problem. Approximately every 100th case has a fatal outcome.

Different degrees of severity of TBE are observed, depending on the particular course, according to senior physician Primar Dr. Ulf Baumhackl of the Department of Neurology at the hospital Landeskrlinikum St. Pölten. If we can place meningitis (with headache and cognitive dysfunction) in the category of a “mild” manifestation of the disease, severe disturbances of neurological function occur once there is involvement of the cerebrum, brainstem and spinal cord; these include disturbances of balance, paralysis of the arms and legs, cranial nerve paralysis, alteration of consciousness, confusion, disturbances of thought processes, psychoses, epileptic seizures and in rare cases even respiratory paralysis.

Clinical manifestations of TBE

The prognosis for the type of disease that presents as meningitis is good. The form involving encephalitis, however, can last several weeks. If the spinal cord is involved, it may take several years for symptoms to disappear. Lasting damage often remains.

- **Meningitis** (inflammation of the membranes surrounding the brain): main symptoms are headache and stiff neck
- **Meningo-encephalitis** (in which the brain is also affected): cognitive dysfunction, cranial nerve paralysis, tremor, disturbances of balance, and sometimes a severe course with lasting neurological symptoms
- **Meningo-encephalo-myelitis** (in which the disease also affects the spinal cord): if the main focus is inflammation in the brain stem, the prognosis is particularly poor with lasting neurological damage and maybe even fatal outcome

- **Meningo-encephalo-myelo-radiculitis** (in which the disease also affects the nerve roots): in this case the disease has also spread to the peripheral nervous system

Treatment for TBE

Causal treatment for TBE is not possible. Intensive medical care (intubation; ventilation; tube feeding) may be required as necessary. Symptomatic treatment is needed in the case of fever, epileptic seizures, headache, etc. Corticosteroids and immunoglobulins are not indicated. If there are disturbances of neurological function, rehabilitation measures involving such areas as neuropsychology, physiotherapy, occupational and speech therapy can be used. Psychopharmaceuticals are often needed to treat the postencephalitic syndrome.

Prognosis of TBE

About one-third of patients are subjectively free of symptoms following discharge from hospital, a further third suffer relevant, sometimes severe long-term neurological damage such as paralyses, disturbances of balance and cognitive loss. A further third exhibit considerable damage which may be temporarily disabling and can last for a period of months, can impair working ability and bring a reduced quality of life. 20 – 30 percent of patients require neurorehabilitative measures over a prolonged period of time.

An example of TBE disease: difficulties of diagnosis as a result of multimorbidity:

A 61-year-old female patient was receiving ongoing treatment for diabetes mellitus, high blood pressure and atrial fibrillation (insulin, antihypertensive drugs and phenprocoumon). In June 2006 she was admitted to the neurological department at the LK St. Pölten hospital with a sudden onset of mental confusion. She had also been suffering from fever (39°C) and tiredness for a week. The phenprocoumon was stopped, and the suspected meningo-encephalitis was confirmed by cerebrospinal fluid tests. TBE was serologically confirmed by the positive finding of TBE-specific IgM and IgG antibodies.

The patient recovered only very slowly. On dismissal from hospital after 38 days as an in-patient she still had pronounced cognitive dysfunction (difficulties of memory, attention and concentration).

The only protection is properly-timed vaccination

Dr. Baumhackl emphasises the importance in these words: “The task of drawing the public’s attention to the prognosis of TBE, and explaining the possibilities that exist for preventing this disease, is something I believe to be very important. What we are doing in Lower Austria is to organise public information campaigns, and these have proved to be an important source of information. In particular, they have enabled us to put irrational arguments that stand in the way of vaccination for the disease in their place, by means of reasoned discussion.”