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**The Case of Stenosis of the Liquid Space of the Spinal Cord and Cauda Equina  
Region in the Course of Purulent Cerebrospinal Meningitis  
in Tomographic and Myelographic Picture**

Przypadek zwężenia przestrzeni płynowej okolicy rdzenia kręgowego i ogona końskiego w ropnym zapaleniu opon mózgowo-rdzeniowych wykazany badaniem tomograficznym i mielograficznym

In the course of bacterial cerebrospinal meningitis different complications may occur. The more frequently they occur the later diagnosis is established and also, when the treatment is insufficient and inappropriately guided. The following complications can be included: the subdural hygroma of the brain, subdural empyema of the brain and of the medulla, cerebral abscess, phlebothrombosis, adhesive arachnoiditis, ependymitis of cerebral ventricles (3, 4).

Referring to the possibilities of the unfavourable evolution of bacterial diseases of the cerebrospinal meninges the authors of the paper would like to show the situation of a patient treated at Neurology Clinic of the Medical Academy in Lublin due to purulent cerebrospinal meningitis with an unexplicit clinical picture and a very serious course of the disease.

CASE DESCRIPTION

In autumn, after a few days' hard work on the farm, the patient K.H., aged 51, started to suffer from strong pains in the lumbosacral region. On the following day the patient was not able to rise from his bed due to a severe pain and so he was admitted to the rheumatology department of the local hospital. A day later the patient got a high fever and headaches occurred. Meningeal symptoms were absent. The purulent fluid was obtained by means of rachiocentesis. In the treatment antibiotics were applied. The temperature of the body lowered but pains in the lumbosacral region still remained. The patient was transferred to the infectious diseases department. After a week the temperature increased to 40°C. Strongly intensified radicular symptoms and pression tenderness of the lumbar region were found. In this condition the patient was transferred to Neurology Clinic in Lublin. At the moment of admittance to the

Clinic the general condition of the patient was good, he only complained of strong pains in the lumbar region and a small headache.

With neurological examination there were found: a great limitation of mobility of the lumbar spine, a positive nuchal-radicular symptom, whereas during the examination of the Lasegue's symptom the patient complained of a diffuse pain in the lumbosacral region. Vertebral muscles tone was increased bilaterally. No meningeal symptoms were found.

Laboratory examinations showed: OB — 95/120, leucocytosis 20 300, apart from that the results were normal. In the X-ray examination of the spinal column the narrowing of L1-L2 space was observed. The lumbar puncture was made — the fluid was still purulent. In the treatment the following drugs were applied: antibiotics paranterally and intrathecally, corticosteroids, nonsteride anti-inflammatory drugs and analgesic drugs.

Daily made examination of the cerebrospinal fluid showed a permanent increase in the level of protein (up to 396 mg%), and a decrease in cytosis (256/3 polynuclears). In the third week from the beginning of the disease the patient stopped having a fever but he still complained of severe pains in the lumbar region.

Due to increasing traits of the cerebrospinal fluid hypostatic syndrome, difficulties in obtaining it, as well as in connection with the possibility of generation of the vertebral canal subdural empyema a month after the patient's falling ill an ascending myelography was carried out. At the height from the intervertebral space L2-L3 up to the height of the body L4 the contrast column was uneven, irregularly narrowed, especially on the sides and from the back. Upwards and downwards the fluid space of the vertebral canal was normal. CT examination of the vertebral canal revealed a distinct stenosis of the intervertebral fissure of L1-L2 with a marked lateral displacement of the body L1 to the left side. At the level of this change the dural sac was slightly displaced backwards.

The patient did not have a fever, pain ailments decreased. Seven weeks after falling ill the control myelographic examination was carried out, which showed the presence of irregular narrowing of the contrast column from the level of the lower body L3 up to the end of the dural sac, especially from the back and from the right side. In comparison with the previous examination the stenosis was smaller. Nerve root sheaths at this level were completely amputated. All this proved a considerable increase in cicatricial changes.

The examination of the cerebrospinal fluid showed a moderately increased level of protein (132 mg%) and pleocytosis 786/3, including 464/3 of polynuclears. The patient did not have a fever, he did not notify of any pain ailments. The neurological state was normal. The following control examination of the cerebrospinal fluid was not possible due to difficulties in obtaining the fluid by lumbar puncture.

Two months from the beginning of the disease the descending myelography was carried out by suboccipital puncture (the composition of the obtained cerebrospinal fluid was normal). The stopping of the contrast column at the level of the body L2 was observed. The CT examination of the space showed that the contrast medium at the height of the intervertebral fissure at L1-L2 fills not distinctly and worse the subarachnoid space from the left-hand side, which might prove post-inflammatory changes. A narrow streak of contrast was mainly visible from the front. Proliferating reactions and degenerative changes of the body L2 were also found.

Due to complete regression of the ailments and in the face of normal neurological state and normal temperature of the patient he was discharged from hospital after 11 weeks since the beginning of the disease with the diagnosis: Sepsa. Purulent cerebrospinal meningitis. Bilateral symptomatic adhesive arachnoiditis in the lumbosacral region. Dyscopathy of L1-L2. Circulatory disturbances of the cerebrospinal fluid are a very serious consequence of inflammatory changes in the brain, meninges as well as in the ependyma of the cerebral ventricles and cerebral aqueduct. They may be caused by the adhesive and obliterative processes of certain segments of circulation routes of the cerebrospinal fluid: cerebral aqueduct, lateral apertures and a median aperture of the ventricle IV, cisterns of the base or the subarachnoid region of the vault of the cerebral hemispheres or, much more seldom, of the vertebral canal (2).

In the vertebral canal the complications of the inflammatory process may occur in the form of empyema or either epidural or subdural abscess as well as adhesive arachnoiditis causing extensive, band-shaped pachynses and adhesions, often with creation of thin-walled cysts filled with the cerebrospinal fluid.

Depending on the localisation they produce the following clinical syndromes: radicular, spinal or radicular-spinal (1, 2). The examination of the cerebrospinal fluid shows then the hypostatic syndrome below the place of development of the lesions, Queckenstedt's or Stuckey's tests are pathological. Moreover, in the empyemas and abscesses of the vertebral canal, in contradistinction to the adhesive arachnoiditis, sensitiveness to pressure was stated of the spinous processes of the respective vertebrae with partial limitation of spine mobility caused by the reflex muscular tone. This is accompanied by general symptoms of inflection.

Decisive in differentiation is myelographic examination, which in case of adhesive arachnoiditis gives a characteristic picture: the stoppage of the contrast medium on the level of adhesions in the form of compact shadow, fascicles/bands or drops.

The right diagnosis in the acute stage of the disease may meet with difficulties, the example of which is the description of the situation of the patient treated in Neurology Clinic, presented by the authors.

The establishment of the right diagnosis was possible only after carrying out several diagnostic examinations of the vertebral canal and was of essential importance for the programming of the treatment.

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#### STRESZCZENIE

Przedstawiono sytuację pacjenta hospitalizowanego w Klinice Neurologii z powodu ropnego zapalenia opon mózgowo-rdzeniowych o niejednoznacznym obrazie klinicznym i o bardzo ciężkim przebiegu schorzenia powikłanego obustronnym objawowym zlepnym zapaleniem pajęczynówki okolicy lędźwiowo-krzyżowej.