A CASE OF NEUROMYELITIS OPTICA MISTAKEN AS A SPINAL STROKE

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SUMMARY: A clinical case of Devic's disease (Neuromyeliteitis Optica) in a 33-year-old woman is presented. The patient had a neuromyelitis symptoms for 2 years. The symptoms started in December 2015, with headache, vomiting and hiccup attacks. Two years later, after taking into consideration the symptoms of transverse myelitis in the anamnesis, then the adding of the symptom of optic neuritis in the form of visual acuity reduction, Devic's Disease was diagnosed. The diagnosis was established on the basis of modern diagnostic criteria, including the instrumental and laboratory data. Patient was examined at the Federal Scientific Center of Multiple Sclerosis in Moscow. It's necessary to differentiate the Neuromyelitis Optica (NO) from brainstem and thoracic location spinal strokes due to possible similar course at the onset of the disease.

Definition

Neuromyelitis optica (NMO), also known as Devic's disease, is a serious, idiopathic and inflammatory demyelinating syndrome of the central nervous system that is classically characterized by selective and severe attacks of the optic nerve and spinal cord with or without recovery, and is potentially fatal ¹.

Pathogenesis of the disease

Table 3. Revised diagnostic criteria for neuromyelitis optica, 2006¹³.

Definite NMO
Optic neuritis
Acute myelitis
At least two of three supportive criteria
1. Contiguous spinal cord MRI lesion extending over ≥ 3 vertebral segments
2. Brain MRI not meeting diagnostic criteria for multiple sclerosis
3. NMO-IgG seropositive status

NMO: neuromyelitis optica; MRI: magnetic resonance imaging.

Sagittal T2-weighted cervical spinal cord MRI shows a typical longitudinally extensive, expansile, centrally located cord lesion that extends into the brainstem (arrows).

The MRI of the orbit reveals a swelling of the right optic nerve (neuromyelitis' relapse period)

THE CLINICAL CASE

Patient Zh.R., born in 1984. Complaints:

- redness of the left eye,
- progressive reduction of visual acuity on the right eye,
- the sensation of shooting pain along the spine with the tilt of the neck forward,
- sensation of itching from the shoulder to the elbow with the slightest irritation,
- stiffness in the legs
- periodic constipation.

Anamnesis

- December 2015 - the episodes of persistent headache, vomiting, hiccups.
- February 2016 - the fluctuating numbness in the right limbs, the swallowing disorders.
- July 2016 - in the waist and lower extremities, there was the feelings of heaviness, "hardening" and stiffness. when bending the neck forward, there was an uncomfortable electrical sensation along the spine, in the form of paresthesias.
- February 2017 - impaired vision on the right eye.
- May 2017 - DS "Partial atrophy of the right NO".

Neurological status

- Subjective amblyopia on the right, impossibility to distinguish objects at a distance of 5 meters monocularly with the right eye.
- Hyperreflexia: in the upper limbs S=D, in the lower extremities S>D.
- Pyramidal insufficiency in the arms and legs, spasticity in the legs.
- Disturbance of sensitivity: polyneuritic type (gloves-socks), hypoesthesia, the Lhermitte's phenomenon
- Asinergia (involvement of the cerebellum)

Somatically: Pterygium II-III degree - OD, OS - lateral hemorrhage in the sclera
AD dextra: 110/80 mm Hg; sinistra: 105/75 mm Hg, the heart rate is 87 beats per min.

Neuroimaging data

Sagittal T2-weighted cervical spinal cord MRI shows a cord lesion that extends from C7 to T1 (8 x 5.0 mm)

MRI of the orbit with contrasting omniscan 15.0: in the sighting sagittal sections of the orbit (STIR mode), Nervus Opticus OD is edematous.

In this way:

- the presence of a transverse myelitis clinic with pyramidal disorders in the legs, alternating with sensitive disorders,
 - acute and progressive visual disturbances confirmed by perimetry and MRI of the orbit,
 - fluctuating relapsing-remitting course,
 - the lack of response to vasoactive and neuroprotective therapy,
- All of them allowed to suspect a disease of the spectrum of multiple sclerosis.
- The absence of periventricular lesions on the brain MRI excluded multiple sclerosis, but led the diagnosis in favor of **Neuromyelitis optica (NMO) - Devic's disease**

Conclusion

Ischemic strokes in brainstem appear often due to the dissection of vertebral artery and following the trauma, having the acute course, what differs them from the autoimmune disease. Focal lesions in thoracic spine can be provoked by occlusion in anterior spinal arteries, what is very rare but mostly are typical for the transverse myelitis and multiple sclerosis as well as autoimmune neuromyelitis. Antibodies to aquaporin 4 detection is crucial in such cases.

Литература

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Perimetry

X - absolute scotoma;
O - visible areas;
figures - relative scotoma.

OD: The site of object vision is in the upper nasal quadrant, from the center; partially shifting to the upper-temporal quadrant: objective vision is absent in all quadrants, except for minor single sites relative scotomas and visible areas.

OS: Arcuate absolute scotoma is in the upper quadrants. In the upper quadrants 20° (temporally) and 10° (nasally), and 50°, there is a single absolute scotoma, against the background of the relative scotoma, in all quadrants of different configurations.

Specific immunological tests performed in the Scientific Center of Neurology, Moscow

- Antibodies to aquaporin-4 - 1:20
- Markers of connective tissue diseases are negative.

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Назначения и рекомендации:
1. Метилпреднизолон 24 мг (6 таб) x 1 р/д в течение 3 месяцев, затем постепенная отмена
2. Общий анализ крови, биохимический анализ крови через 1, 2, 3 месяца и далее 1 раз в 3 месяца
3. Контроль гликемии 3 раза в неделю натощак, перед обедом, через 2 часа после обеда. При повышении уровня гликемии более 8 ммоль/л - глюкофаж 500 мг x 2 р/д (утро, обед), консультация эндокринолога.
4. Омепразол 20 мг x 2 р/д (утро, вечер) в течение курса приема метилпреднизолона
5. Плановые 1 таб. x 3 р/д (утро, день, вечер) в течение курса приема метилпреднизолона.
6. ЭГДС перед началом применения метилпреднизолона. При назначении или эрозий на слизистой лечение метилпреднизолоном противопоказано.
7. МРТ шейного и грудного отделов позвоночника и спинного мозга в динамике через 6 и 12 месяцев
8. Наблюдение невролога по месту жительства

Дата: 20.12.2017 Врач: Кочергина Иван Александрович