



CHARACTERISTIC SIGNS OF OPHTHALMOLOGICAL DISORDERS IN PATIENTS WITH DEGENERATIVE DISEASES OF THE CERVICAL SPINE

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Abstract:

Degenerative-dystrophic spine diseases (DDD) are one of the main causes of relative disability and mainly affect people of working age. The incidence of degenerative-dystrophic diseases in medical institutions is 51.2 per 1000 inhabitants. Degenerative-dystrophic diseases of the spine account for up to 40% of all orthopaedic diseases. That is, this pathology is the leading pathology and accounts for 90% of the total number of diseases of the spinal column. And these figures continue to grow from year to year.

Keywords: Degenerative-dystrophic spine diseases.

RELEVANCE. The problem of degenerative diseases of the spine is one of the urgent social problems, which has a significant economic emphasis, as it affects not only people of the older generation, but also people of young and middle age, who are able-bodied population [1,3]. According to many authors, the diagnosis of this pathology is difficult. There is a poor correlation between the results of radiological examination and clinical symptoms, which complicates diagnosis [2,4].

Ophthalmological complaints of darkening in the eyes, flickering, 'flies', sparks, coloured spots in front of the eyes and other photopsias, eye pain, scotomas, loss of visual fields, and periods of complete loss of vision are very often the primary manifestations of cervical spinal cord (CSA), with which patients initially consult an ophthalmologist [5,7].

Thus, it is necessary to evaluate ophthalmological signs of DM in the SHOP both for primary diagnosis of this disease and timely prescription of treatment measures, and for differential diagnosis of cervical osteochondrosis

and other diseases accompanied by disorders of cerebral circulation, as well as for determining the stage of development of this disease depending on the changes in characteristic ophthalmological signs in the dynamics of degenerative-dystrophic process, correction of treatment tactics, the possibility of predicting the progression of the degenerative-dystrophic process.

Objective of the study. To analyse ophthalmological diseases in degenerative diseases in the cervical spine. Material and methods of the study. The study is based on the analysis of the results of complex examination and treatment of 46 young patients (main group-OH) treated in the neurological department of the SamMU clinic for the period of 2022- 2024 (Table 1). The OG included 22 men (47.8%) and 24 women (55.2%), mean age 31.3+8.7 years. Randomised heterogeneous heterogeneous combined randomised sampling was used as the method of sampling population formation.

Table 1.
Distribution of patients by groups

Indicators	OG, n=46		KG, n=40	
	aбс	%	aбс	%
men	22	47,8%	20	50,0%
women	24	52,2%	20	50,0%
gender index m/w	0,9		1,0	



average age, years	31,3+8,7	31,6+4,8
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Inclusion criteria: patients with degenerative diseases of the cervical spine, young age - 20-45 years. Exclusion criteria were: patients with haemodynamically significant (more than 70%) stenoses and occlusions of carotid arteries, with steno-occlusive lesions of vertebral arteries and vertebral subclavian steal syndrome, patients with Powers' anomaly, age older than 45 years. The control group (CG) consisted of 40 relatively healthy patients comparable by sex and age OG: men - 20 (50,0%) and women - 20 (50, 0%). gender index m/j -1,0. The mean age was 31.6+4.8.

The diagnosis - degenerative diseases in the cervical spine - was made after a comprehensive clinical and radiation examination, which included assessment of neurological status, radiography, MRI of the spine and spinal cord at the cervical level. Visual analogue scale (VAS) was used to assess the intensity of pain syndrome.

The study materials were subjected to statistical processing using parametric and nonparametric analysis methods. Accumulation, correction, systematisation of initial information and visualisation of the obtained results were performed in Microsoft Office Excel 2016 spreadsheets. Statistical analysis was performed using IBM SPSS Statistics v.26 (developer - IBM Corporation).

RESULTS OF THE STUDY AND THEIR DISCUSSION.

Clinical and neurological symptomatology in degenerative cervical spine in OH is presented in Figure 1. Headache was detected in 36 patients (78.3%), the average intensity according to VAS was 5.8+1.3 points.

Cervicalgia was detected in 37 patients (80.4%). Neck pain irradiated to the head and/or upper limb. In 45.7% of cases patients complained of dizziness attacks. Orthopaedic clinical symptoms, such as limitation of movements in the SHP were present in 30 patients (65,2%), coordination disorders in 13 patients (28,3%). In OG, visual disturbances were observed in 37.0% of cases, the structure of which we will consider later.

Neurological examination showed that the predominant neurological symptoms were painful anterior (in the area of the carotid tubercle of the C6 vertebral body) and/or posterior (medial to the mastoid process) points of the vertebral artery (38.2%).

The prevalence of reflex, muscle-tonic and compression neurological syndromes in OH patients is presented in Figure 2. Scalenus syndrome or anterior ladder muscle syndrome occurred in 15.2% of cases, facet syndrome (osteoarthritis of the arch joints) - in 19.6%, radiculopathy - in 45.7%. Vertebral artery syndrome (VA) was observed in 17.4% of cases, myelopathy among the examined patients was a rare pathology in SHOP and occurred in only 2.4% of patients .

Comparative analysis of the results of the study of visual disturbances in OG and CG testify to a rather wide range of subjective ophthalmological manifestations in patients with DS in SHOP, and in comparison with CG these subjective manifestations were significantly more frequent in OG. OH patients more often had such complaints as darkening in the eyes (56,5% and 30,0% respectively), flickering (45,7% and 22,5% respectively), appearance of 'flies', (39,1% and 20,0% respectively). Comparable indicators had highly significant differences (p<0.005).

Table 2.
Frequency of ophthalmological subjective manifestations .

Subjective manifestations	OG		p<	KG	
	abs	%		abs.	%
Darkening in the eyes	26	56,5%	0,005	12	30,0%
Flickering	21	45,7%	0,005	9	22,5%
Appearance of flies	18	39,1%	0,005	8	20,0%
Dry eyes	35	76,1%	0,001	19	47,5%



Feeling of 'tiredness' of vision	31	67,4%	0,001	15	37,5%
Tension of the eye muscles	28	60,9%	0,005	13	32,5%
Feeling of 'blurred' vision	15	32,6%	0,001	7	17,5%
Changes in visual acuity (fluctuations) during the working day	18	39,1%	0,005	9	22,5%
Feeling of 'swelling' in front of the eyes	21	45,7%	0,005	10	25,0%
Painful sensations in the eyes, temples, in the area of eye sockets	34	73,9%	0,001	8	20,0%
Feeling of 'heaviness' in the eyes, on the eyelids	38	82,6%	0,001	14	35,0%
Painful sensations when moving the eyes	29	63,0%	0,05	29	72,5%

The changes on the ocular fundus detected in OG showed: moderate venous dilation in 28 patients (60.9 %) in OG and in 5 (12.5 %) in CG ($p < 0.001$), arterial narrowing by type of reversible (with preservation of elasticity of vessel wall) or irreversible angiospasm in 12 and 22 (26.1 % and 52.2 %) patients respectively OG and in 14 and 0 healthy people (35, 0 % and 0.0%) respectively ($p < 0.001$), symptoms of grade I arterio-venous crossing were found in 24 (52.2%) of the investigated patients, whereas in the control group only single grade I arterio-venous crossings were found in 3 (7.5%) ($p < 0.001$).

When examining the ocular fundus, 26 patients (56.5%) and 2 people of the control group (5.0%) were found to have corkscrew-like tortuosity of vessels. The analysis of the reliability of the manifestation of the indicated signs in the OG and CG patients showed that the obtained differences are reliable, i.e. the indicated signs are caused by the development of this pathology with the probability of error $p \leq 0.001$ (Fig.3).

CONCLUSIONS. Considering the obtained results of the study on the distribution of clinical signs and changes on the ocular fundus it should be noted that in young patients with degenerative diseases in the cervical spine, ophthalmological pathology is quite common - in 37.0% of cases. According to the ophthalmological examination, the spectrum of visual

disorders is quite wide. In the diagnosis of VA in the SHOP it is necessary to use functional methods of research (visometry), examination of the eye fundus (ophthalmoscopy), which is of great importance for the diagnosis of the disease under study, correction of tactics and evaluation of treatment results, the possibility of predicting the course of the disease and restoration of visual functions.

LITERATURE

1. Бровкина А. Ф., Щуко А. Г. О дифференциальной диагностике некоторых видов оптической нейропатии // Клиническая офтальмология. — 2008. — № 1. — С. 30—33.
2. Густов А. В., Сигрианский К. И., Столярова Ж. П. Практическая нейроофтальмология. — Н. Новгород, 2003. — Т. 1
3. Егоров Е. А., Ставицкая Т. В., Тутяева Е. С. Офтальмологические проявления общих заболеваний. — М., 2006.
4. Киселева Т. Н., Тарасова Л. Н., Фокин А. А. Кровоток в сосудах глаза при двух типах течения глазного ишемического синдрома // Вестн. офтальмологии. — 2001. — № 1. — С. 22—24.
5. Кушнир Г. М. К офтальмологической диагностике церебральных нарушений при шейном остеохондрозе // Вопросы



офтальмологии в неврологической клинике:
Труды Крым. мед. ин-та. — Ялта, 1981. — Т.
90. — С. 24—25.

6. Яхно Н. Н. Общая неврология. — М., 2009.
7. Aim A. Ocular circulation // Adler's Physiology of the Eye. — Baltimore, 1992. — P. 198—227.
8. Nash G. B. Blood rheology and ischemia // Eye. — 1991. — N 5. — P. 151—158.
9. Sivalingam A., Brown G. C., Magargal L. E. The ocular ischemic syndrome. II. Mortality and systemic morbidity // Int. Ophthalmol. — 1989. — Vol. 13, N 3. — P. 187—191.