

OCULAR ISCHEMIC SYNDROME

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Abstract The article discusses, therefore, those suffering from occasional blurred vision should urgently consult a doctor for a thorough assessment of the carotid artery. Anterior segment ischemic syndrome - ischemic condition of the anterior segment is commonly seen in post-surgical cases. Occlusion of the central retinal artery or the ophthalmic artery of the eye leads to rapid death of retinal cells, up to complete loss of vision.

Keywords: Ischemic syndrome, eye, artery, segment, stroke, vision.

Introduction

Ocular ischemic syndrome is a constellation of ocular signs and symptoms secondary to severe, chronic arterial hypoperfusion of the eye. Amaurosis (blindness) is a form of acute vision loss caused by reduced blood flow to the eye and can be a warning sign of an impending stroke. Therefore, those suffering from intermittent blurred vision should urgently seek medical attention for a thorough evaluation of the carotid artery. Anterior segment ischemic syndrome - ischemic condition of the anterior segment is commonly seen in post-surgical cases. Occlusion of the central retinal artery or the ophthalmic artery of the eye leads to rapid death of retinal cells, up to complete loss of vision.

Symptoms and signs

Ocular ischemic syndrome (OIS) usually occurs between the ages of 50 and 80 years (in patients over 65 years of age); moreover, there are twice as many affected men as women. More than 90% of them report a decrease in vision. Patients report dull, radiating pain above the eye and eyebrow. Patients with GIS may also present with a history of other systemic diseases, including hypertension, diabetes mellitus, coronary artery disease, previous stroke, and hemodialysis.

Loss of vision is a secondary problem with respect to hypoperfusion of the structures of the eye. The patient complains of intractable pain or ocular migraine. An extended examination can reveal: multiple small intraretinal hemorrhages, cotton wool exudates, neovascularization on the retina and in the anterior segment (iris, anterior chamber angle), neovascular glaucoma. Ocular perfusion pressure is reduced. Edema and folds of the Descemet's membrane are visible in the layers of the cornea. Aseptic sluggish anterior uveitis is possible.

A cherry red spot may be seen in the macula due to ischemic edema of the nerve fiber layer. In the arteries of the retina, spontaneous pulsations can be seen.

The reasons

Severe ipsilateral or bilateral carotid stenosis or occlusion is the most common cause of HIS. The syndrome is associated with blockage of the common carotid artery, the internal carotid artery, less often the external carotid artery. Other reasons include:

- Arteritis Takayasu
- Giant cell arteritis (Horton's disease)
- Severe occlusion of the ophthalmic artery due to thromboembolism.
- Surgical interruption of the anterior ciliary blood vessels supplying the eye, especially during extensive strabismus surgery on three or more rectus muscles leading to the anterior segment of the ischemic syndrome.

Complications

Due to prolonged ischemia, neovascularization develops, which can be located on the retina, iris, and anterior chamber angle (ACA). With obliteration of the APC, secondary "neovascular" glaucoma develops, which, in the absence of antihypertensive therapy and surgical treatment, primarily of damaged carotid arteries, in a short time (depending on the level of intraocular pressure (IOP)) leads to a complete irreversible loss of visual functions.

Treatment and management

Rapid identification of the cause can lead to urgent measures to save the eyes and life of the patient. There should be high clinical suspicion of painless vision loss in patients with atherosclerosis, deep vein thrombosis, atrial fibrillation, pulmonary embolism, or other previous embolic episodes. Caused by carotid embolism or occlusion, they can lead to stroke due to separation of the emboli and their migration to the terminal cerebral artery. Therefore, steps must be taken to eliminate this possibility.

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Retinal arterial occlusion is an ophthalmic emergency and timely treatment is essential. In animal models, completely anoxic retinas show irreversible damage within 90 minutes. Non-specific methods to increase blood flow and remove emboli include digital massage, 500 mg IV acetazolamide, and 100 mg IV methylprednisolone (for possible arteritis). Additional measures include aqueous puncture to drastically lower IOP. ESR will indicate the presence of giant cell arteritis. Improvement can be determined by visual acuity testing, visual field test, and ophthalmoscopic examination.

At a later stage, pan-retinal photocoagulation (PRP) with an argon laser appears to be effective in reducing neovascular components and their complications. The visual prognosis for ocular ischemic syndrome usually varies from bad to good (poor to fair), depending on the speed and effectiveness of the intervention. However, rapid diagnosis is critical in providing signs of serious cerebrovascular problems and coronary heart disease.

In 2009, the Underwater and Hyperbaric Medical Society (UHMS) added “central retinal artery occlusion” to its list of approved indications for hyperbaric oxygen therapy (HBOT). Prevention of vision loss requires certain conditions: treatment must be started before irreversible damage occurs (over 24 hours), occlusion must not occur in the ophthalmic artery, and treatment must continue until saturation of the inner layers of the retina with oxygen through the retinal arteries is restored.

Conclusion

The visual prognosis for ocular ischemic syndrome usually varies from bad to good (poor to fair), depending on the speed and effectiveness of the intervention. However, rapid diagnosis is critical in providing signs of serious cerebrovascular problems and coronary heart disease.

Literature

1. SS Nabiyeva, AA Rustamov, MR Malikov, NI Ne'matov // [Concept Of Medical Information](#) // European Journal of Molecular & Clinical Medicine, 7 (7), 602-609 p, 2020
2. Qarshiev A.B. S.S. Nabieva, A.Sh. Egamqulov Medical information Systems // International Scientific Journal Theoretical & Applied Science Issue 04, Vol. 72, 2019 y.
3. HA Primova, TR Sakiyev, SS Nabiyeva // [Development of medical information systems](#) // Journal of Physics: Conference Series 1441 (1), 012160, 2020
4. SS Nabiyeva, OB Axmedov, MR Malikov, LE Shukurov // [LABORATORY INFORMATION SYSTEMS](#) // Archive of Conferences, 9 (1), 282-286 p, 2020
5. Sakiev T., Nabieva S. Architecture of the medical information system. International Scientific Journal Theoretical & Applied Science. Section 4. Computer science, computer injeengineering and automation. Issue: 05 Volume: 61. Published: 14/05/2018. p. 35-39
6. Sakiev T., Nabieva S. Principles of computer design. International scientific and practical journal "Theory and Practice of Modern Science" Issue No. 7 (25) (July, 2017).
7. Primova H. Sakiev T., Nabieva S. Development of medical information systems. XIII International scientific and technical conference "Dynamics of Systems, Mechanisms and Machines" November 2019, Omsk, Russia. (Scopus).
8. Karshiev A., Nabieva S., Nabiyeva I. Medical information systems. International Scientific Journal Theoretical & Applied Science. SECTION 4. Computer science, computer injeengineering and automation. Issue: 04 Volume: 72. Published: 30/04/2019. 505-508 p.
9. Sakiev T., Nabieva S. Typical processes of AWP. International scientific and practical journal "Theory and Practice of Modern Science" Issue No. 7 (25) (July, 2017).
10. AB Karshiev, XA Primova, SS Nabiyeva, AS Egamkulov // [Architectural integration problems of MIS](#) // ISJ Theoretical & Applied Science, 05 (85), 733-739 p.