УДК 61:615.1(062)(476-25)
ББК 52я73
А 43
ISBN 978-985-21-1258-1

Baliyan A.

PATHOPHYSIOLOGICAL ASPECTS OF RETINOBLASTOMA

Scientific supervisor: PhD, associate professor Zhadan S.A.
Department of Pathological Physiology
Belarusian State Medical University, Minsk

Retinoblastoma is the most typical primary intra-ocular malignancy in children. Each year, retinoblastoma is diagnosed in around 9,000 children worldwide. Patient survival is greater than 95% in high-income countries, while it is just 30% globally.

Retinoblastoma accounts for, according to various estimates, approximately 2-4% of cases of all malignant tumors of childhood, or approximately 3-4 cases per million children. Almost always, this tumor is diagnosed in children of a very early age, up to 5 years, in most cases even up to 2 years. In adolescents and adults, this tumor is almost never found.

Through increased understanding of early diagnosis, new suggestions, and knowledge sharing, outcomes are increasing.

The purpose of the work is to study the etiology, classification, mechanisms, clinical manifestations and possible methods of diagnosis and treatment of this disease.

Retinoblastoma is one of the few tumors of childhood in which heredity plays a very significant (and already well-studied) role. About 40% of retinoblastoma cases are associated with genetic mutations (RB gene) that can be passed from parent to child. In most cases, this hereditary retinoblastoma develops very early, before 12 to 18 months of age, and often affects both eyes, although it can be unilateral. Sporadic, that is, not associated with hereditary factors, retinoblastoma is almost always unilateral.

There are several classifications of retinoblastoma. So, according to the nature of growth, exophytic and endophytic tumors are distinguished: exophytic grows between the outer layers of the retina and the pigment epithelium, gradually exfoliating the retina, and endophytic extends to the inner surface of the retina and swells into the vitreous body.

Signs and symptoms. Most often, the first noticed sign of the disease is a whitish "glow" of the pupil - leukocoria, or a symptom of the "cat's eye". This phenomenon is associated with the reflection of light from the tumor-affected retina. The pupil may also appear reddish. Other possible symptoms are strabismus, blurred vision (but difficult to diagnose in very young children), pupil dilation with a decrease in its reaction to light, changes in the color of the iris, redness of the eye, pain.

Diagnostics includes biomicroscopy, direct and indirect ophthalmoscopy, fundus scanning with a retinal camera, tonometry (to measure intraocular pressure), etc. An important method is ultrasound. Computed and magnetic resonance imaging, angiography, bone scintigraphy can also be used, in cases of the most common tumors - spinal and bone marrow puncture.

Treatment is usually conservative. Measures are taken to save the eye, but with a neglected tumor and extensive damage, surgery cannot be avoided. Removal (enucleation) of the eyeball or even removal of the entire contents of the orbit (exenteration) is possible if the tissues of the orbit are affected.

Thus, understanding the mechanisms of the disease, adequate and timely treatment provides an excellent prognosis for the life of patients with retinoblastoma. In this regard, the main task of doctors is increasingly becoming the preservation of vision, which is of particular importance in case of bilateral eye damage in children.