

SUDDEN DECREASE IN VISION IN ONE EYE AFTER SHARP PAINS IN THE BACK AND LOWER ABDOMEN

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Abstract

Purpose: The purpose of this article is to identify the relationship between diseases of the retina and the genitourinary tract.

Methods: A case study.

Results: The present study provides new histopathologic information regarding the formation and progression of idiopathic epiretinal membrane (ERM).

Conclusion: The appearance of the epiretinal membrane may be of an inflammatory nature. Inflammation is possible due to an imbalance between the microbiota of the genitourinary tract and the antibodies surrounding them.

This theory has not yet been proven, but numerous examples of the relationship between these diseases of the genitourinary tract and eye diseases allow us to make such an assumption.

Keywords: Epiretinal membrane (ERM), histopathological changes, human microbiota, wrinkling retina.

Introduction

The prevalence of epiretinal membrane (ERM) is 7% to 11.8%, with increasing age being the most important risk factor. Although most ERM is idiopathic, common secondary causes include cataract surgery, retinal vascular disease, uveitis and retinal tears. The myofibroblastic pre-retinal cells are thought to transdifferentiate from glial and retinal pigment epithelial cells that reach the retinal surface via defects in the internal limiting membrane (ILM) or from the vitreous cavity¹.

In recent years, there have been more and more studies showing the association of the microbiota with diseases of the retina, as well as with glaucoma^{2,3}. Often, many diseases of the retina occur suddenly after previous general diseases.

In this regard, I would like to give a case of a sudden decrease in vision in a patient after the onset of menopause.

Clinical case

The patient, 46 years old woman 3 years ago started menopause. She developed back pain, irregular menstruation, pain in the lower abdomen. At one time, these pains became intolerable. Hypertension developed, in connection with which the patient began to take a combined antihypertensive drug (lisinopril 5mg + amlodipine 20mg). A month later, the pains sharply decreased, in the same time swelling appeared under the eyes (more on the left side), and the vision of the left eye suddenly deteriorated (Figure 1).



Figure 1. The patient suddenly developed swelling under the eyes, especially under the left eye after severe back pain.

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	DOI:10.30546/2788-516X.2023.4.1.16
	

On admission visual acuity (VA) of the right eye (OD) was 20/20, and left eye (OS) 20/100. Refraction of the right eye was Sph +0.5 Cyl -0.5 and left eye was Sph +0.5 diopter (D) Cyl -2.0D axis (ax) = 177 and best corrected visual acuity was 20/25. So mixed astigmatism was determined in the left eye. But, according to the patient, the vision of the left eye used to be normal. Optical media are transparent.

The fundus of the right eye is normal. On the fundus of the left eye is marked folding, wrinkling retina (Figure 2,3).



Figure 2. On the fundus of the left eye is marked folding, wrinkling retina.

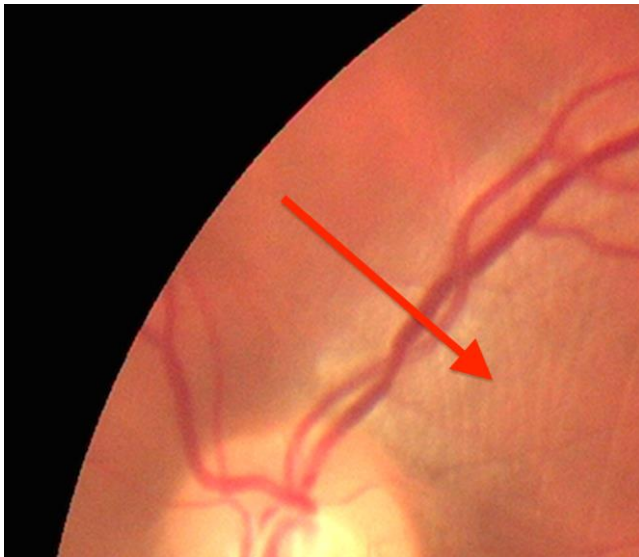


Figure 3. Left eye. The arrow indicates the folding of the retina.

OCT shows the detachment of the posterior hyaloid membrane, epiretinal membrane Posterior hyaloid is detached except for the adhesions at the optic disc border. Thickening of the retina and retinoschisis is observed from the disc towards the macula. Epiretinal membrane with diffuse thickening of the macula is observed. Structures of the outer layers of the retina are intact (Figure 4,5).

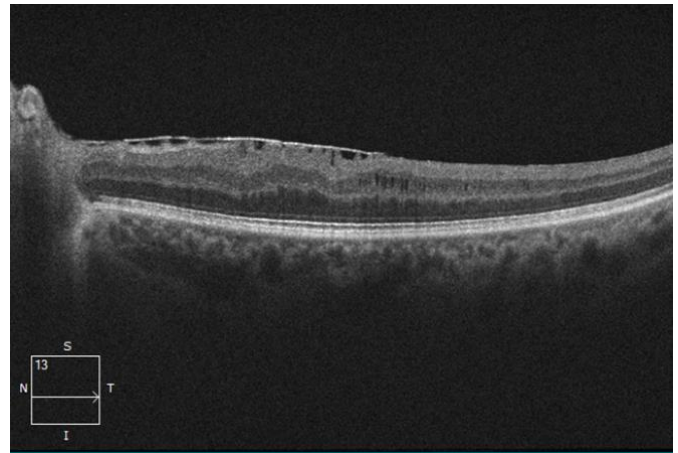


Figure 4. OCT left eye. Epiretinal membrane with diffuse thickening of the macula is observed

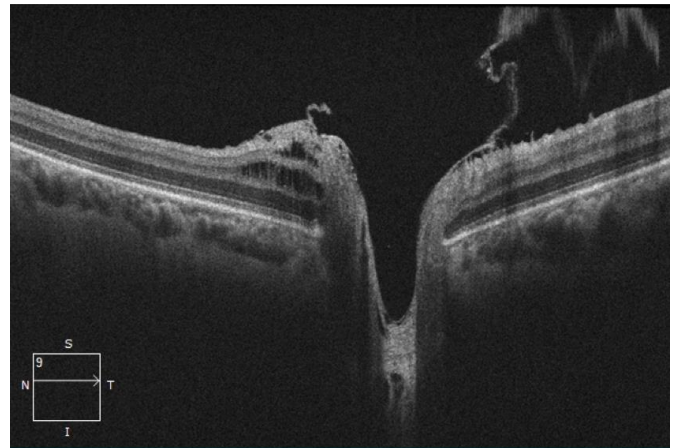


Figure 5. Thickening of the retina and retinoschisis is observed from the disc towards the macula.

Discussion

The authors compared idiopathic ERM with histopathological changes. They believe that the proliferation of glial cells plays a predominant role in these processes .4.The present study provides new histopathologic information regarding the formation and progression of idiopathic ERM. Glial cell proliferation plays a predominant role in these processes.5.

It is known that all inflammatory processes occur in the connective tissue. Retinal glia refers to this tissue. This gives us reason to believe that the cause of this pathology is the inflammatory process. Inflammation is associated with microbes. Which microbes are involved in this process.

Many authors believe that the cause of retinal diseases is the human microbiota⁶. The microbiota is found in the gastrointestinal tract, urinary tract and other mucous membranes that come into contact with the external environment. This is faced with diseases of the conjunctiva -

conjunctivitis. This patient did not have conjunctivitis.

A sharp deterioration in vision in the left eye was preceded by menopause, pain in the back and lower abdomen. This can only be associated with a violation of the microbiota of the genitourinary tract. The microbiota is associated with surrounding antibodies. The avidity of the microbiota population and the surrounding antibodies can be different. Probably, it is this difference that can cause various diseases of the genitourinary tract, back pain, retinal diseases.

An interesting trend is being observed. When the patient had menstrual disorders, pain in the lower abdomen, in the back, she did not have problems with her eyes. When the general symptoms disappeared, there was a sharp deterioration in the vision of the left eye.

She developed an epiretinal membrane, another patient developed PIC after a miscarriage⁷. Some patients may experience APMPPE⁸.

Probably, the structure of the retina is fractally diverse. In some cases, changes occur in some layers, in other cases in other layers. In any case, it may be an inflammatory process. The inflammatory process occurs as a result of an imbalance between the microbiota of the genitourinary tract and the antibodies surrounding them. How true this will be shown by our further research.

It is interesting to note that immediately after the disappearance of pain, swelling appeared under the eyes. These edemas often accompany the elderly. In severe cases, they occur with kidney disease. But most often with this edema, there are fewer changes in the urinary tract and less often there are back pains. Perhaps this puffiness under the eyes can prolong life?

Conclusion

The patient after the onset of menopause and menstruation disorders developed back pain, intolerable pain in the groin area. Then, after a sudden cessation of pain, the patient's vision in the left eye deteriorated, and swelling appeared under the eyes. An ophthalmological examination revealed the presence of an epiretinal membrane, wrinkled retina, detachment of the posterior hyaloid membrane, and slight retinal edema.

It has been suggested that the appearance of the epiretinal membrane may be of an inflammatory nature. Inflammation is possible due to an imbalance between the microbiota of the genitourinary tract and the antibodies surrounding them.

This theory has not yet been confirmed, but numerous examples of the relationship between these diseases of the genitourinary tract and eye diseases allow such an assumption to be made. Further research is needed in this area.

Conflict of interests

The author declares that there is no conflict of interest.

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Funding

None.

Study association

This study is not associated with any thesis or dissertation work.

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How to cite this article: Gunel Mammadova. Sudden decrease in vision in one eye after sharp pains in the back and lower abdomen. *Journal of Ophthalmology cases & Hypotheses.* 2023;4(01);16-19.