



TRAUMATIC ANIRIDIA - CASE REPORT

KEYWORDS

Sanda Jurja

Assistant professor, Ophthalmology Department, Faculty of Medicine, Ovidius University Constanta, Aleea Universitatii Campus 2

Introduction

Aniridia is the partial or complete absence of the iris, which is the colored part of the eye. Traumatic aniridia (iridemia), occurs in less than 1% of ocular injuries.[1] Most frequently it involves different accidents, but there were also cited cases of aniridia after surgery, in intracapsular lens extraction procedures. [2, 3, 4]

Case report

Our patient was a 21-year old male, from country side, who suffered a domestic accident and fell face down, to the same level. Immediately after, sudden and major vision loss occurred in his left eye. Two days later, he came to emergency department in Constanta County Hospital in order to be diagnosed and treated.

Ophthalmologic exam revealed no light perception in left eye and normal vision in fellow eye. The damaged eye was presenting a scleral wound, located at 2 mm distance from sclero-corneal limbus, in nasal sector, with uveal tissue herniating in the wound, and total hyphema.

Surgery was performed, with herniated tissue resection and scleral wound suture.

During surgery, despite intense bleeding, an important pigment impregnation of neighboring bulbar conjunctiva was noticed. This pigmentation persisted after surgery was done.

Under antibiotic, anti-inflammatory and hemostatic therapy, both local and general, the evolution was good. Two weeks after surgery, partial resorption of hyphema made visible the ciliary process in temporal quadrant. Intraocular pressure remained normal.

Three weeks after surgery, complete resorption of hyphema allowed complete visibility of ciliary processes, on all 360°, the lens appeared with opacities in all layers, but normally positioned. Intraocular pressure remained normal and visual acuity of this eye is now light perception.

The outpatient postoperative examination revealed stable intraocular pressure and light perception, with uncertain projection, of the injured eye. The lens became entirely opaque, the Zinn zonule appeared to be undamaged, and ultrasonography confirmed attached retina.

Two months after the first surgery, phacoemulsification and aspiration of the opacified lens were performed, and an artificial aspherical intraocular lens was implanted in the capsular bag.

Postoperative evolution was again fine, with a 0.9 final visual acuity. The only remaining discomfort was photophobia, because the iris loss causes losing control of the amount of light that enters the eye. For that, an artificial iris or an iris contact lens were suggested. An artificial iris lens was not affordable for our patient, and such a device was not reimbursed by medical insurance. As happened with the iris contact lens. So that, unfortunately, the patient could not benefit of any of it, because of social reasons.

The current situation, five years after injury is stable, the injured eye is functional, allowing our patient to work and to have a normal life.

The fellow eye is also normal, without any signs of suffering, so there is no concern of sympathetic ophthalmia.

Comments

Although rare, traumatic aniridia occurs in various circumstances. Most frequently, aniridia follows strong concussions resulting in laceration of the eyeball. [1, 2, 3, 6] Less often aniridia occurs after a penetrating wound of the eye, as in our case. Extremely rare, aniridia appears in strong concussions without eye laceration.

The mechanism of the iris loss consists of a shearing force which acts on the iris insertion.[5,6] In the reported case, the mechanism of total pulling of the iris was the strong concussion from falling, resulted in the eyeball laceration. The traumatic force has been so strong that it pulled entirely the iris from its root, but also projected it outside the eyeball, through the scleral wound.

The pigment impregnation of the conjunctiva adjacent to the scleral wound suggests the intervention of autophagic mechanism of the herniated iris, which acted during those two days, from the time of the injury to the presentation moment.

The rich vasculature of the iris and the breaking of the major arterial circle caused by the injury explain associated hyphema and vitreous hemorrhage. Thus, aniridia diagnosis is made after hyphema resorption. [5]

In a study including 23 patients with traumatic aniridia, Garigali and Molfeta, cited by Trobe and Keeney, report that final visual acuity was related to the situation of the lens.

The best visions were obtained in those cases in which the crystallin lens was completely expelled, or it remained in place, but clear. [2] From this point of view, our case is a happy exception, because the lens remained in place, but

became opaque, so that we had to solve the cataract. The end was a clear lens, but not the own natural lens of the patient, but a clear artificial one! However, the outcome was a "happy end".

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