SURGICAL TREATMENT OF THE POST-TRAUMATIC PALPEBRAL PTOSIS

Claudia Florida Costea, D.Petraru

“Gr. T. Popa” U.M.Ph. - Iași, Romania, Faculty of Dental Medicine
II Clinic of Ophthalmology, „Prof. Nicolae Oblu” Clinical Emergency Hospital of Iași

Corresponding author: Claudia Florida Costea

ABSTRACT
We present the case of a 5 year old patient who comes to the II Clinic of Ophthalmology of „Prof. Nicolae Oblu” Clinical Emergency Hospital of Iași for correction of the right total unilateral palpebral ptosis Right Eye, 6 months after a palpebral trauma with a sharp object that sectioned a part of the orbicular muscle fibers and the levator muscle of the right upper lid. We mention that the surgical treatment performed was the correction of the palpebral ptosis, by shortening the upper lid levator muscle and reinsertion at its aponeurosis, considering the achievement of a functional and esthetic result. The reducing of the grade IV palpebral ptosis to grade II – I was aimed, letting free the visual axis.

Key words: palpebral ptosis, levator muscle of the lid, visual axis

INTRODUCTION
The palpebral ptosis represents an affection generated by structural or innervation anomalies of the upper lid levator muscle, translated by dropping of the upper lid. (1). It can be classified in congenital and acquired forms. The acquired ptosis is etiopathogenically classified in: myogenic, neurogenic, mechanic, traumatic, aponeurotic. In most cases it is a surgical emergency for the child, where the obstruction of the visual axis can determine serious amblyopia (1). The surgical management of the palpebral ptosis is a complex problem that concerns: strengthening the force of the upper lid levator (by shortening or advancing) reinsertion of the aponeurosis of the upper lid levator and replacement of the levator’s action (with a part of the upper right muscle, suspension of lid to the frontal muscle) (1). Our case was a surgical emergency, as the palpebral ptosis obstructed the visual axis, with ambliopization of the right eye.

CLINICAL CASE
The patient B.A., 5 years old, county of Iași, was hospitalized in II Clinic of Ophthalmology of „Prof. Nicolae Oblu” Clinical Emergency Hospital of Iași, at 25.02.2013 for total unilateral palpebral ptosis, after a wound at the right upper lid, 6 months ago (October 2012); the patient is hospitalized for surgical resolution of the palpebral ptosis. In his pathological history we note the following: R.E. Strong Ocular Traumatism; R.E. Sutured upper lid wound (that affected 1/3 internal of the palpebral threads of the orbicular muscle and of the upper lid levator muscle); R.E. Posttraumatic Total Unilateral Palpebral Ptosis (October 2012). The results of the general objective clinical exam do not show other pathological changes. The pupillary reflexes – photomotor; B.E. present, equal dimension pupils. Movements of the ocular globes present, symmetrical in all directions of the look. Blinking reflex to R.E. absent. Chromatic sense: B.E. normal. Sensitivity of the cornea
B.E. present.

**Figure 1. R.E. Posttraumatic total palpebral ptosis**

Exam of the ocular annexes: B.E. integral orbital bulges. R.E. section of the upper tear channel, post-surgery scar in internal angle, total palpebral ptosis (gr. IV)(Fig.1); O.S. aspect, position, normal palpebral motility. Bio-microscopic exam: B.E. anterior pole of normal aspect. Ophthalmologic exam: V.A.R.E. = 1 with correction +0.25 spherical diopeters; V.A.L.E. = 1 with correction +0.25 spherical diopeters. Perception and luminous projection B.E. sure, present. Ophthalmoscope exam B.E.: optical nerve papilla plane, normally colored, vessels with central emerging, trajectory, normal caliber, macula with present foveolar reflex.

The data from anamnesis, general objective and general ophthalmologic clinical exam orient towards diagnosis of probability: R.E. Strong ocular traumatism; R.E. Sutured wound upper lid; R.E. Posttraumatic total unilateral palpebral ptosis; B.E. Low hypermetropia.

In order to mention the positive diagnosis and to perform the present biological configuration of the patient, the following targeted complementary explorations are necessary: orbit X ray does not show the presence of a metallic foreign body. Eye-orbit C.T. exam show sectioning of the upper lid levator muscle; there is no metallic foreign body at the level of the right orbit. The pediatric exam does not show pathological aspects.

According to the anamnesis data, to the general and eye objective exam and to the complementary explorations the following positive diagnosis can be pronounced: R.E. Posttraumatic total unilateral palpebral ptosis; R.E. Strong ocular traumatism; R.E. Sutured upper lid wound, B.E. Low hypermetropia.

The positive diagnosis is based on the immobility of the right upper lid and the absence of the blinking reflex for R.E.

**The differential diagnosis is:**

Simple congenital ptosis, mechanical ptosis without breaking the levator (orbit contusion and formation of an orbit hematoma) (2), ptosis of muscular cause, Marcus Gunn palpebral ptosis (movements of the mandible accompanied by moderate ptosis), paralytic ptosis (paralysis of nerve III – divergent strabismus), ptosis of sympathetic origin (Claude Bernard Horner Syndrome); myasthenic ptosis (asymmetric, intermittent, diplopia), ptosis of nuclear origin (encephalitis, flu, brucellosis, cerebral tumors, vascular, toxic causes) (2), ptosis of Marin Amat (reversed Marcus-Gunn Syndrome, opening the mouth produces the closing of the lid), ptosis of Beard (dropping of the lid during the movements of the ocular straight muscles) (2).

**Treatment**

The surgical intervention was performed under general anesthesia of the patient and aimed to: identify and isolate the right upper lid levator muscle by anterior approach, its shortening and reinsertion at the level of muscular aponeurosis, re-suture of the palpebral threads of the orbicular palpebral muscle in 1/3 internal, that were posttraumatically sectioned (Fig.2 a,b,c).
Fig.2.a,b,c. Surgical intervention of the total palpebral ptosis: a) anterior approach of the right upper lid levator muscle, b) isolation and its shortening, c) intradermic suture

After surgery the patient received: antibiotics, steroidal anti-inflammatories and antalgics (fig.3). Upon discharge, an ointment with antibiotics is prescribed, 2 times / day for 10 days.

10 days after the surgery we notice favorable evolution, smaller inflammatory phenomena, R.E. present palpebral motility, palpebral ptosis gr. II-I, free visual axis V.A.R.E. = 1 without correction (Fig.4).

Fig.3. R.E. Palpebral ptosis gr. II - first day after surgery we notice edema and ecchymosis at the level are right upper lid

Fig.4. R.E. Palpebral ptosis gr. II-I at 10 days after surgery; the inflammatory phenomena are remited, the visual axis is free
**Particularity of the case**

This clinical case is particular because the traumatism totally sectioned the upper lid levator muscle which brought to its total ptosis that was surgically solved.

**Prognostic**

The prognostic is favourable, it improved the cosmetic aspect of the patient, the visual acuity was maintained, free visual axis, the total palpebral ptosis being reduced to palpebral ptosis gr. II-i.

In the absence of the surgical treatment, the decrease of the visual acuity and the eye ambliopization appear; also, the palpebral ptosis has a negative psychological impact upon the patient.

**DISCUSSIONS**

The palpebral ptosis is a complex pathology which can be treated by several surgical techniques. (3). The surgical management is a controversial problem and must be adapted to each type of palpebral ptosis.

In the case of moderate ptosis with the action of the lid levator muscle of 10 mm, the müller resection technique can be performed by internal approach, transconjunctivally (4). This technique is approached in the case of congenital pto
tosis and of horner syndrome, the lid elevation being of 2-3 mm. In the case of different grade ptosis, where the function of the lid levator muscle is over 5 mm the shortening of the lid levator complex is performed by internal or transconjunctival approach (4). In severe ptosis (> 4 mm) with the reduced function of the lid levator muscle (<4 mm) in marcus gunn syndrome, paralytic ptosis (paralysis of nerve III), the technique implies the suspension of the tarsus at the frontal muscle (4).

In this clinical case the technique of shortening the lid levator muscle and the re-insertion to its aponeurosis was performed, as a consequence of a wound that affected the threads of the upper lid levator muscle and orbicular muscle fibers.

Although the action of the levator muscle was absent, the result after surgery was very good, transforming the total ptosis in ptosis of grade II-I, letting the visual axis free.

**CONCLUSIONS**

In this clinical case, the position of the upper lid was corrected, letting the visual axis free, V.A.R.E. = 1 without correction, a good esthetic result was also obtained, with a positive impact upon the patient.

**REFERENCES**