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Palpebral necrosis complicating a chalazion surgery

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Abstract: *Our patient is a fifty six year-old woman, allergic to penicillin, operated in the ophthalmology department for a chalazion of the upper left eyelid, resistant to the medical treatment. The surgical procedure was performed under non-adrenaline local anesthesia using a chalazion forceps. The chalazion was removed with his hull without any complication during the surgery. The patient presented 5 days later, eyelid edema with skin necrosis of the mobile eyelid. We performed a resection of the necrotic skin with traction of the eyelid. After 15 days we made a skin graft to avoid any retraction. Bacteriological samples were inconclusives. We had a progressive detersion of areas of residual necrosis with progressive centripetal regeneration and persistence of a transfixing solution of continuity in the central part of the upper eyelid. For our observation, the mechanism of necrosis is not known with certainty. A prolonged duration of the compression by the chalazion forceps remains the only hypothesis.*

Background*:*
The occurrence of necrosis following a chalazion surgery is exceptional. It is mainly reported following the use of adrenalin products, in localisations where the vascularization is terminal type.

Observation: *: Our patient is a 56-year-old woman, allergic to penicillin, followed in the ophthalmology department for a chalazion of the upper left eyelid, without any other abnormality on examination. After failure of medical treatment based on corticosteroids, the indication for a surgical removal of the chalazion under local anesthesia was raised. The surgical procedure was performed under non-adrenaline local anesthesia, with use of the chalazion forceps. The patient presented 5 days later, eyelid edema with skin necrosis of the mobile eyelid, extending to the eyelid groove and interfering with the eyelid opening. After 15 days we made a skin graft to avoid any retraction. Bacteriological samples were inconclusives. We had a progressive detersion of areas of residual necrosis with progressive centripetal regeneration and persistence of a transfixing solution of continuity in the central part of the upper eyelid.*

Aim of the observation : *Describe a rare and serious complication of seemingly simple surgery.*

Key Word: *Chalazion, chalazion surgery, necrosis, eyelid, skin graft.*

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I. Introduction

The occurrence of necrosis following a chalazion surgery is exceptional. It is mainly reported following the use of adrenalin products, in localisations where the vascularization is terminal type (1). We recall the case of an upper palpebral necrosis complicating a chalazion surgery , 5 days after the operation. We aim to explain that there is no simple surgery and even a chalazion surgery can have serious complications difficult to manage.

II. Observation

Our patient is a 56-year-old woman, allergic to penicillin, followed in the ophthalmology department for a chalazion of the upper left eyelid, without any other other abnormality on examination.

She received a medical treatment based on eyelid hygiene with twice-daily massages and topical corticosteroids during 15 days without any result.

The indication for surgical removal of the chalazion under local anesthesia was raised. The surgical procedure was performed under non-adrenaline local anesthesia, with use of the chalazion forceps. It lasted less than 5 minutes with emptying of the contents of the cyst and removal of the hull, while the compression did not exceed one minute.

A local antibiotic treatment (neomycin) and oral analgesic was prescribed

The patient presented 5 days later, eyelid edema with skin necrosis of the mobile eyelid, extending to the eyelid groove and interfering with the eyelid opening. **(Fig 1)**

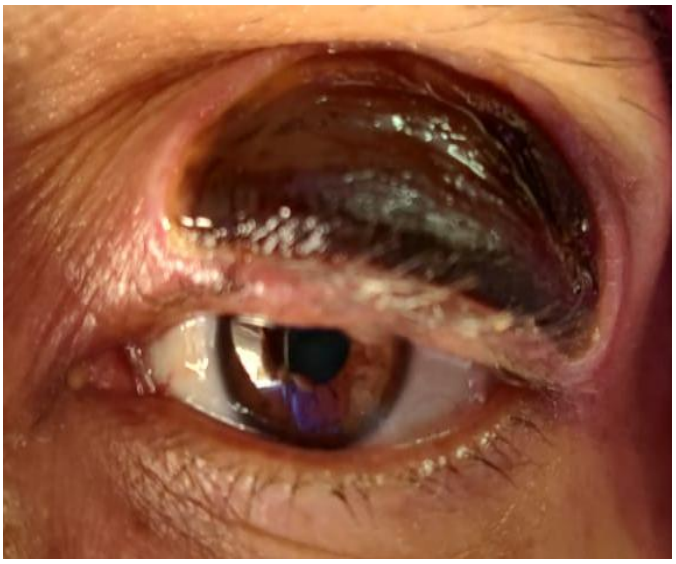

Fig 1 : skin necrosis of the mobile eyelid, extending to the eyelid groove and interfering with the eyelid opening (5 days after the surgery

We prescribed a local application of vitamin A to accelerate the scarring without any success . Ten days after, the necrosis area was clearly individualized.
We performed a resection of the necrotic skin with traction of the eyelid for 15 days then a skin graft to avoid any retraction. **(Fig 2)**

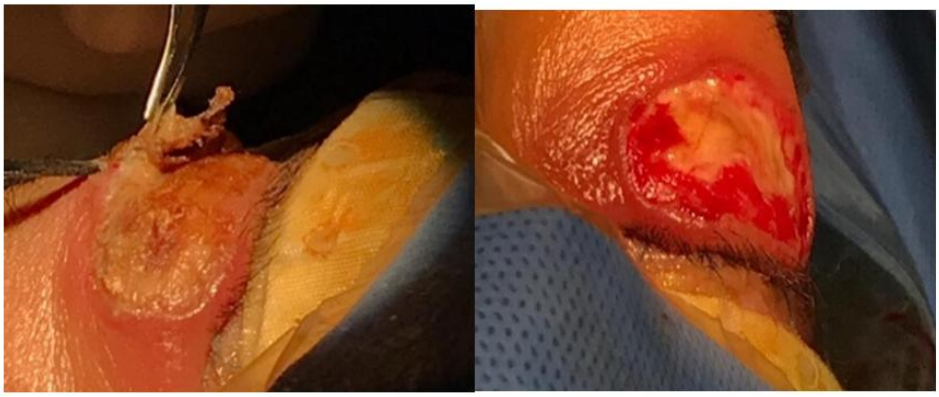

Fig 2: Resection of the necrotic skin

Bacteriological samples were taken with an inconclusive result.
We applied a healing cream and antibiotic alternately to achieve debridement.
We had a progressive detersion of areas of residual necrosis with progressive centripetal regeneration **(Fig 3)**

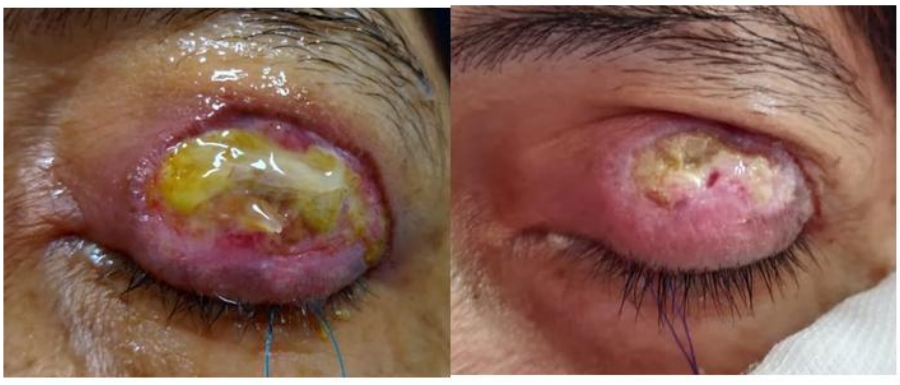

Fig 3 : Progressive detersion of areas of residual necrosis with a progressive centripetal regeneration

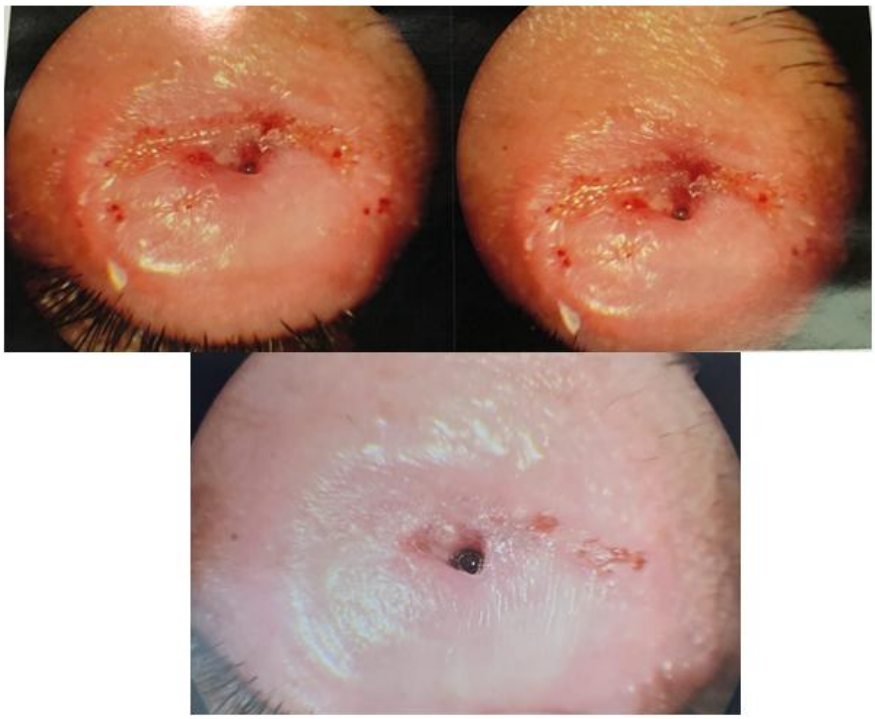

Fig 4: Persistance of a transfixing solution of continuity in the central part of the upper eyelid

A transfixing solution of continuity in the central part of the upper eyelid persisted **(Fig 4)**

For our observation, the mechanism of necrosis is not known with certainty.
Neither an allergic reaction, nor an arterial vasospasm, nor a direct toxic effect of the non-adrenaline lidocaine solution seems plausible to us.
A prolonged duration of the compression by the chalazion forceps remains the only hypothesis for the moment.
An etiological investigation is still underway to look for a vascular cause.
The surgical management of our patient allowed a better healing, but the persistence of the transfixing continuity solution can lead us to surgically resume the patient if the spontaneous healing is not done correctly

III. Discussion

Chalazion surgery has minimal risks. Complications are dominated by infection and hemorrhage (2, 3). We can also have severe complications as reported by Elizaebh M Elliot and Co with an asystolic event after bupivacaine injection during chalazion surgery (4).

The occurrence of necrosis following a chalazion surgery is exceptional. It is mainly reported following the use of adrenalin products, in localisations where the vascularization is terminal type. We found one case published by N.Sliti and co showing an acute bilateral palpebral necrosis following local anaesthesia. (1). In our observation, the mechanism of necrosis is not known for sure. Neither an allergic reaction, nor an arterial vasospasm, nor a direct toxic effect of the non-adrenaline lidocaine solution seems plausible to us. A prolonged duration of the compression by the chalazion forceps remains the only hypothesis for the moment. An etiological investigation is still underway to look for a vascular site, an allergy to the anesthesia product or an infectious cause.

IV. Conclusion

As doctors, we should keep in mind that there is no surgery without complications. We must stay vigilant even for little surgeries with minimal risks. Postoperative follow-up is very important even for those surgeries. With the increase of chalazions associated with face mask wear during the Covid pandemic (5) we have to operate more chalazions and therefore face more complications.

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