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Case Report

Bloody Tears or Hemolacria: Is it Always Up to the Ophthalmologist?

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Abstract

Haemolacria is a hemorrhagic manifestation during which tears are consisting partially or exclusively of blood. This manifestation is rare and most often unilateral. The etiologies of this manifestation are varied. Most common are inflammation, lacerations or even infection at the level of the conjunctiva, eyelid and tear ducts. However, other rarer diseases may cause this manifestation. Most cases of haemolacria are benign and evolve without complications after identification and management of the factor triggering.

We report the case of a 28-year-old female patient who presented with first episode of bilateral haemolacria and whose etiological diagnosis revealed retrograde epistaxis.

Keywords: Haemolacria; CT-Dacryocystography; Epistaxis

Introduction

Haemolacria is a rare hemorrhagic syndrome characterized by the flow of tears of blood. It was first described in 1581 by Dodaneus in a 16-year-old young woman non-pubescent [1]. The etiological diagnosis can be difficult to define. It is important to consider all the causes potentially involved. When haemolacria occurs, local causes are the most common, including inflammation, lacerations or even infection in the conjunctiva, eyelid and tear ducts. There are also other rarer causes such as lacrimal tumors, retrograde epistaxis, vascular malformations and constitutional or acquired hemorrhagic syndromes. We report the case of a 28-year-old female patient referred for haemolacria on both eyes.

Patient and Observation

A 28-year-old patient admitted to our department with bilateral haemolacria which presents for the first time (Figure 1). The patient's medical history reveals no hemostasis disorders which can cause bleeding, she was not taking any anticoagulant treatment. However, the patient reports recurrent epistaxis of small abundance involving both nasal cavities. The last of which occurred two days before her consultation for haemolacria.

The ophthalmological examination found preserved visual acuity and intraocular pressure of 16 mmhg in both eyes.

There was no exophthalmos, oculo-motor paralysis, eyelid or peri-orbital swelling.

Slit lamp examination of both eyes reveals slight bilateral conjunctival hyperemia, a clear cornea, a calm anterior chamber, a clear lens, fibrillar and clear vitreous.

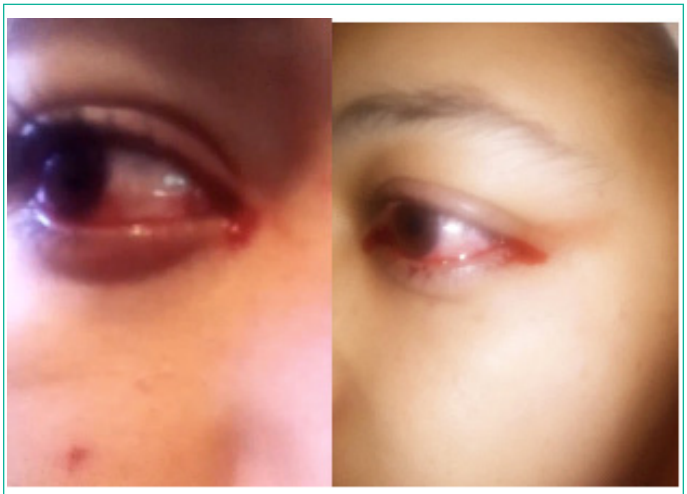

Figure 1: In this figure we can see the haemolacria on both eyes.

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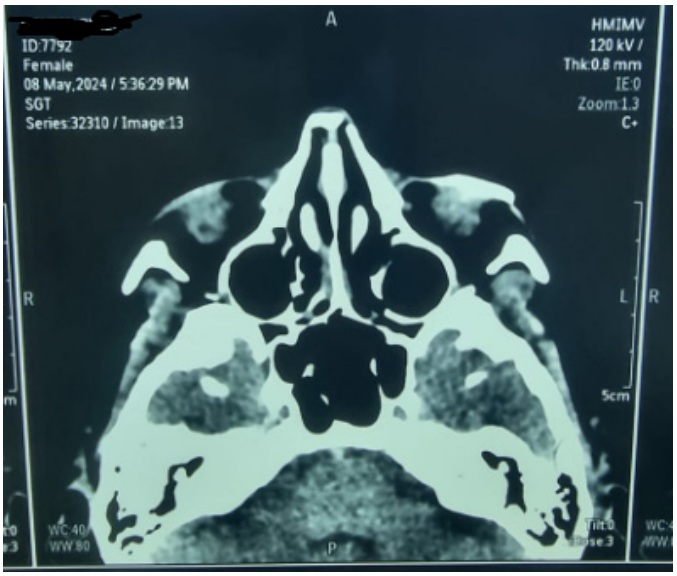

Figure 2: No particular findings on the CT-Dacryocystography (axial slice).

V3M fundus examination reveals no retinal vascular abnormalities or suspicious tumor appearance.

The rest of the examination found a patient in good general condition with no associated anemic syndrome.

Laboratory tests revealed a normal complete blood count (hemoglobin and platelet count) and coagulation profile (platelets, active bleeding time, prothrombin level and fibrinogen). On the other hand, vitamin C dosage was normal.

The CT-Dacryocystography was carried out showed no obstacle nor anomaly of the tear ducts.

Given the history of epistaxis, an ENT examination was requested

The endoscopic examination of the nasal cavities revealed a very inflamed nasal mucosa on both sides with blood clots on the lateral wall and the inferior turbinate which indicates a recent bleeding, the clots were more abundant on the left (Figure 3).

Sinus and facial computed tomography revealed no pathology other than inflammatory mucosa.

At the end of the clinical, endoscopic, biological and radiological explorations, retrograde epistaxis was retained as the most probable etiology given the concomitant occurrence of epistaxis and haemolacria ahead of the negativity of the assessments.

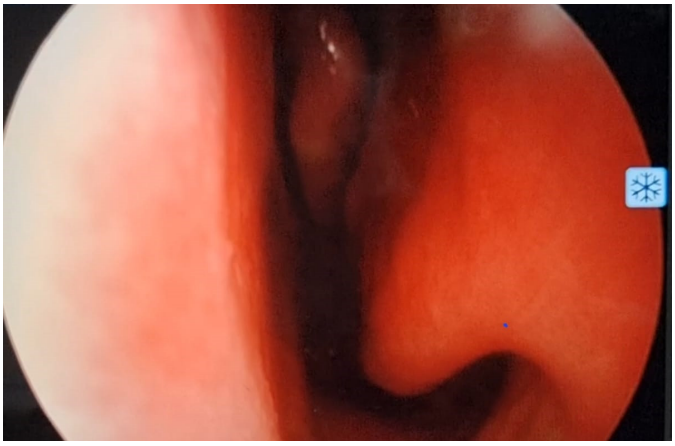

Figure 3: Endoscopic view of the left nasal cavity showing an epistaxis of small abundance.

The patient was wicked by a merocel in the left nasal cavity, her eyes and nasal cavities were washed with physiological saline. Then she was put on Amoxicillin and nasal corticosteroids for 7 days.

The patient was seen again after 48 hours to remove the merocel. She reports a good evolution with no haemolacria or epistaxis when seen 2 weeks later, then during a 3-month follow-up.

Discussion

Haemolacria is a rare symptom characterized by tears containing blood. It is typically caused by trauma, inflammation, infection, vascular issues, cancer or coagulopathy.

However, in some cases, ophthalmic infection is not identified. Salwa Bakhurji et al [1] reported two cases in which the exact etiology of haemolacria was not identified, but which had a favorable outcome following the introduction of antibiotic eye drops.

On the other hand, vascular malformations or tumors at the lacrimal level are a possible etiology. Di Maria et al [2] reported the case of an emergency patient with bilateral haemolacria. After ophthalmological examination with a slit lamp, a hemangioma was diagnosed as the cause of this hemorrhagic manifestation. After treatment with timolol eye drops, the patient reported no recurrence of haemolacria. More specifically, conjunctival melanoma, with an incidence of 0.02 to 0.08/100,000 per year, can be revealed by haemolacria. With a survival rate of 62% to 78% after 10 years, it is essential to look for it [3].

Following an epistaxis, the increase in nasal pressure can cause haemolacria. During nasal epistaxis, blood passes through the Hasner-Bianchi valve, enters the lacrimonal duct and, following an antidromic direction toward the normal tear, emerges into the lacrimal basin through the punctum. The most frequent origins of blood leaving the lacrimal point are epistaxis produced by general vascular and blood diseases or rhinitis. Tumors, foreign bodies, contusive trauma, otolaryngological surgery may also be a cause [4].

General causes of haemolacria include Henoch-Schönlein purpura (PHS), a systemic disease secondary to the formation of IgA1 immune complexes in small vessels [5].

One case in the literature reports haemorrhagic manifestations consisting of haemolacria, digestive haemorrhage and haematidrosis in a 66-year-old woman with this condition [6].

Another general cause is Rendu-Osler-Weber disease, the clinical manifestations of which vary according to the location of the telangiectasia.

While a congenital cause has been described, secondary causes of telangiectasia are possible, such as pregnancy, Raynaud's syndrome, and various systemic diseases (dermatomyositis, scleroderma, mastocytosis, systemic lupus erythematosus).

Anticoagulant and anti-platelet aggregation therapy are certainly implicated. Hemorrhagic clinical manifestations of vitamin C deficiency are due to vascular fragility, defective tissue healing, hemolysis and extravasation. The main causes of vitamin C deficiency are malnutrition, alcoholism, celiac disease, Crohn's disease and Whipple's disease. Increased daily vitamin C requirements during growth, pregnancy or breastfeeding should not be overlooked [7].

Gardner-Diamond syndrome can induce haemolacria. This "erythrocytic auto-sensitization syndrome" is mainly found in women, with psychological factors as triggers [8]

Other cases of haemolacria may be more difficult to explain, due to a psychiatric origin related to a pathomimia [9].

Finally, there are also idiopathic cases of haemolacria, defined as such when no underlying cause has been identified following a well-conducted assessment. Robert James et al. estimate that 30% of their haemolacria cases are idiopathic [10]. Several idiopathic cases have been reported [11], most of which resolve spontaneously.

Conclusion

Haemolacria can cause significant anxiety for patients due to its 'impressive' nature. In order to provide optimal management, a thorough assessment must be conducted. The initial step should be an ophthalmological examination, as it often helps identify the underlying cause of the hemorrhagic manifestation. It is important not to overlook the possibility of retrograde epistaxis through the lacrimal passages, which can be diagnosed clinically. However, before confirming this diagnosis, it is necessary to perform a biological and radiological assessment to rule out other local or systemic causes.

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