



## Haemolacria bloody tear in young girl: A case study

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Bloody tears are a rare medical condition caused by various ocular and systemic conditions. The disease is under reported and under-investigated in Pakistan, especially in Rawalakot. The study focuses on a 15-years-old girl diagnosed with spontaneous and bilateral bloody tears. Clinical analysis reveals that the stress and anxiety increase the frequency of the bloody tears in the girl. Further, genetic testing is also required in order to include or exclude the genetic factor.

**Keywords:** Lacrimal gland, visual impairment, ocular diseases, clinical diagnosis.

**INTRODUCTION:** Haemolacria is characterized as in which an individual has blood in the tears. This is also known as bloody tears, hematic epiphora or simply tears of the blood (Das *et al.*, 2020). This may be unilateral or bilateral (Mishra, 2009; Praveen and Vincent, 2012; Das *et al.*, 2020). The etiology of Haemolacria disorders is not specific, disease occur due to trauma, inflammation, epistaxis, tumors, vascular lesions, irregular menstruation, and other psychiatric disorders (Caglar *et al.*, 2021). Furthermore, the spontaneous bleeding in the eyes may also be caused by disseminated intravascular coagulation (DIC), which is diagnosed by the platelet count method, so far, no defined diagnosis method has been clinically approved (Bruno *et al.*, 2011). We are reporting first case report from Azad Kashmir Pakistan. The bloody tear case never reported from Pakistan.

**OBJECTIVES:** The main objective of the study is to understand the genetic and clinical aspect of the Haemolacria. Provide awareness among the clinician and public as well about the disease.

**CASE STUDY:** A 16 years' girl, living in remote area of Rawalakot, Azad Jammu and Kashmir (AJK), has been experiencing the blood tear problem. She first encountered the bleeding eye issue at the age of 15 years. She was immediately brought in the local hospital after the first episode of bloody tears (figure 1); on medical examination doctor revealed the young girl has been suffering with Haemolacria.



Left Eye

Right eye

**Figure 1:** Depicting bloody tears in both eyes.

Girls both eye bleed daily for few days', then gap of two months was observed after bleeding. The subject experiences redness of the eyes and swelling before the bleed starts but with no outward injury to the eyes. She is a healthy girl without any disability but is allergic to smoke and has renal infection. Stress and weeping are apparent stimulus. The duration of the bleeding eye varies to 2-3 minutes and prolongs occasionally to 8 minutes. The episodes are painful and her nose also bleeds simultaneously. Discharge of blood clots is reported while crying. The blood pressure remains low. The episodes of blood tears leave the subject in severe depression. There is no family history of such condition nor do any of the siblings experience the same. She also complains of migraine. Detail history is mentioned in the table 1.

Age	16 Years
Bilateral/Unilateral	Bilateral
Duration of Bleeding	2-3 Minutes
Frequency of Bleeding	Daily
Associated illness	Allergy
Migraine	Yes
Stimulus	Anxiety/ Stress
Family History	No

**Table 1:** Clinical symptoms and medical history of the patient.

Detailed investigations of the patient were carried out. The patient

age is 16 years at the time of clinical examination, bleeding occurs in her both eye daily for 2-3 min for few days. She also allergic from egg and also subjected to migraine at the age of 12 years (table 1). The subject went through thorough screening and her labs showed normal Full Blood Count (FBC) and Erythrocyte Sedimentation Rate (ESR). Pro Thrombin time (PT) 15, Activated Partial Thromboplastin Time (PTTK) 34, International Normalize Ratio (INR) 1.2, CT Scan of Brain, PNS and orbit was unremarkable and they did not show any significant abnormality. Furthermore, Diabetic Profile of the patient was normal. The Renal Function test (Serum Sodium, Serum Potassium, Serum Urea, Serum Creatinine) all were within the normal range. Liver Function Test along with Alkaline Phosphates and Serum ALT were according to the standard values. Hepatitis Profile was negative. Bleeding tears is a serious medical condition which may be caused due to various clinical circumstances (Ghosh *et al.*, 2021). The autonomy of the disease is specifically established by carrying out series of medical and clinical investigations including thorough history of the patient, family cases are also to be analyzed along with general ophthalmologic inquiries, laboratory, and radiological assessments (Bakhurji *et al.*, 2018).

The most reported causes of Haemolacria include anxiety, stress, and hormonal changes especially during menstruation, physical exertion i.e., bending, stooping and coughing or (Sobol and Barmettler, 2017) any kind of trauma (Das *et al.*, 2020). The common of cases of bloody tears are triggered by conjunctival lesions and are generally harmless (Bakhurji *et al.*, 2018). Bloody tears were revealed to be ipsilateral to a migraine headache with conjunctival injection (Barakova and Reid, 2020). Globally cases were reported with the age of less than 20 years (Ho *et al.*, 2004; Murube, 2011; Özcan *et al.*, 2013; Oyenusi and Ananti, 2015) while cases above 20 year of the age were also reported (Awan *et al.*, 2006). In our study bleeding was bilateral as previously reported by (Murube, 2011). While unilateral cases were also reported in previous studies (Tekade *et al.*, 2013; Acherjya *et al.*, 2019). Frequency of bleeding in our study was one day which resembles with one of case reported. In other studies frequency of bleeding was 3 days (Sobol and Barmettler, 2017), 2 weeks (Oyenusi and Ananti, 2015), 3 weeks (Ho *et al.*, 2004) 1, 3 and 6 six months and 1 year's respectively (Murube, 2011; Praveen and Vincent, 2012; Fowler *et al.*, 2015). Migraine anxiety and allergy is associated illnesses were with bleeding in our studied case. Physiological stress migraine and headache were also reported in previous studies (Rahman *et al.*, 2017; AlGoraini *et al.*, 2021). The most reported causes of Haemolacria in this study are anxiety, stress and smoke. In future genetic study also helps to understand the underlying condition in the patient.

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**CONFLICT OF INTEREST:** All the authors declared no conflict of interest.

**LIFE SCIENCE REPORTING:** In current research article no life science threat was reported

**ETHICAL RESPONSIBILITY:** This case report is original research, and it is not submitted in whole or in parts to another journal for publication purpose.

**INFORMED CONSENT:** The author(s) have reviewed the entire manuscript and approved the final version before submission.

**REFERENCES:** Acherjya, G. K., M. Ali, K. Tarafder, M. K. Chowdhury, M. A. Salam and M. N. Kamal, 2019. Idiopathic haemolacria: A

- rare case report. *Journal of medicine*, 20(2): 106.
- AlGoraini, Y., A. Şeyhibrahim and M. Jawish, 2021. A healthy young girl crying out blood: A case report. *Heliyon*, 7(5).
- Awan, S., H. S. Kazmi and A. A. Awan, 2006. An unusual case of bloody tears. *Journal of ayub medical college abbotabad*, 18(1).
- Bakhurji, S., S. A. Yassin and R. M. Abdulhameed, 2018. A healthy infant with bloody tears: Case report and mini-review of the literature. *Saudi journal of ophthalmology*, 32(3): 246-249.
- Barakova, L. and J. Reid, 2020. Haemolacria associated with severe attacks of migraine with visual aura and hypertension. *Journal of clinical studies & medical case reports*, 7(102): 2.
- Bruno, C., N. Fernanda and M. Belini, 2011. Bloody tears after miniplate osteo-synthesis for le fort i osteotomy. *Asian journal of oral and maxillofacial surgery*, 10: 1016-1018.
- Caglar, A., H. Akca, F. Kurt, L. Akcan Yildiz, P. Nalcacioglu, O. Buyukkoc and E. Dibek Misirlioglu, 2021. Sudden-onset haemolacria in an adolescent girl. *Paediatrics and international child health*, 41(4): 295-299.
- Das, D., M. Chiranthan, R. Meel and S. Neupane, 2020. Crying out blood: Haemolacria in a young girl. *BMJ case report*, 13(6): e236579.
- Das, D., P. Kumari, A. Poddar and T. Laha, 2020. Bleeding to life: A case series of hematohidrosis and hemolacria. *The indian journal of pediatrics*, 87: 84-84.
- Fowler, B. T., M. G. Kosko, T. A. Pegram, B. G. Haik, J. C. Fleming and A. E. Oester, 2015. Haemolacria: A novel approach to lesion localization. *Orbit*, 34(6): 309-313.
- Ghosh, S., S. Tale, N. Handa and A. Bhalla, 2021. Rare case of red tears: Ocular vicarious menstruation. *BMJ case reports CP*, 14(3): e237294.
- Ho, V. H., M. W. Wilson, J. S. Linder, J. C. Fleming and B. G. Haik, 2004. Bloody tears of unknown cause: Case series and review of the literature. *Ophthalmic plastic & reconstructive surgery*, 20(6): 442-447.
- Mishra, K. L., 2009. Bloody tears and hematohidrosis in a patient of pf3 dysfunction: A case report. *Cases journal*, 2: 1-2.
- Murube, J., 2011. Bloody tears: Historical review and report of a new case. *The ocular surface*, 9(3): 117-125.
- Oyenusi, E. and C. Ananti, 2015. Haemolacria (bloody tears): A perplexing symptom: A report of two cases. *Nigerian journal of paediatrics*, 42(1): 68-70.
- Özcan, K. M., T. Özdaş, H. Baran, F. Ozdogan and H. Dere, 2013. Hemolacria: Case report. *International Journal of pediatric otorhinolaryngology*, 77(1): 137-138.
- Praveen, B. and J. Vincent, 2012. Hematohidrosis and hemolacria: A case report. *The Indian journal of pediatrics*, 79: 109-111.
- Rahman, M. S., M. R. Karim and M. M. Islam, 2017. Dissociative disorders with haemolacria: Series of case reports. *Journal of bangladesh college of physicians & surgeons*, 35(1): 11-24.
- Sobol, E. K. and A. Barmettler, 2017. A case of idiopathic bilateral hemolacria in an 11-year-old girl. *Ophthalmic plastic & reconstructive surgery*, 33(4): e98-e99.
- Tekade, P., C. Tekade, M. Salgare and S. Chahankar, 2013. A rare finding of red tears in eyes (*Haemolacria*) in a case of death due to electrocution: A case report. *Indian journal of forensic medicine & toxicology*, 7(2): 150.



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