



AN UNUSUAL CASE OF SWEATING OF BLOOD

Rimi Som Sengupta	MBBS, MD(Medicine), Associate Professor, Dept. of Medicine, ESI-PGIMSR & ESIC Medical College, Joka, Kolkata-700104.
Sudeshna Ghosh	MBBS, MD(Medicine), Senior Resident, Dept. of Medicine, ESI-PGIMSR & ESIC Medical College, Joka, Kolkata-700104.
Anirban Ghosh*	MBBS, MD(Medicine), Associate Professor, Dept. of Medicine, ESI-PGIMSR & ESIC Medical College, Joka, Kolkata-700104. *Corresponding Author
Anirban Sarkar	MBBS, MD(Medicine), Assistant Professor, Dept. of Medicine, ESI-PGIMSR & ESIC Medical College, Joka, Kolkata-700104.
Samir Chakraborty	MBBS, MD(Medicine), Assistant Professor, Dept. of Medicine, ESI-PGIMSR & ESIC Medical College, Joka, Kolkata-700104.
Avishek Naskar	MBBS, MD(Medicine), Assistant Professor, Dept. of Medicine, ESI-PGIMSR & ESIC Medical College, Joka, Kolkata-700104.
Tapas Kumar Mondal	MBBS, MD(Medicine), Professor & Head, Dept. of Medicine, ESI-PGIMSR & ESIC Medical College, Joka, Kolkata-700104.

ABSTRACT

Presence of blood in sweat is a rare but dramatic event described in medical literatures across the world. A 13 year old girl presented with "sweating of blood" from skin & mucous membranes precipitated by psychological stress. Blood counts, coagulation profiles, platelet function tests & capillary fragility tests were found to be normal. She improved with propranolol & counselling.

KEYWORDS :**INTRODUCTION:**

Hematohidrosis or hematidrosis is a very rare condition where patient seems to "sweat blood". Patient usually presents with spontaneous bleeding from skin and mucosa. This entity although rarely seen but is not unheard of. Its mention can be found in the Bible where Jesus had blood from his eyes while praying, also it has been mentioned in the works of Leonardo da Vinci! The most common presentation is as a component of systemic disease or vicarious menstruation or after excessive exertion. Psychogenic stress is considered precipitating factor in most cases. (1)

CASE SUMMARY:

A 13 year old girl presented to the emergency with a history of mucocutaneous bleeding from the skin, nasal and oral cavity for preceding 2 months. Initially bleeding episodes were infrequent, once in a week and used to occur only from skin. It gradually increased to several times a day by the time of evaluation with spontaneous bleeding from nasal and oral cavity in addition to skin. Figures 1 & 2 show some of the bleeding episodes from face & lower limb respectively. The episodes were spontaneous, self-limited, and immediately preceded by headache, palpitations and uneasiness. There was no history of previous significant illnesses. On asking, patient revealed mental stress in the form of perceived neglect from mother. There was no history of trauma or any bleeding disorder, no history of frequent intake of coloured products or any food allergies.

Physical examination was entirely normal apart from a low normal blood pressure of 100/60 mm of Hg. There were no signs suggestive of any external wound. Neither was blood exuded with local pressure. The secretion was not frank blood but appeared to be mixed with some secretions. All routine blood and coagulation tests, including complete blood count, liver & renal function tests, Prothrombin Time, Activated Partial Thromboplastin Time, bleeding time, platelet aggregation test and capillary fragility test were normal. An

episode of such spontaneous bleed was witnessed at hospitalisation, samples of the fluid contained all normal RBCs. Patient was started on propranolol with decrease in frequency of attacks.

DISCUSSION:

The etiopathogenesis of this condition is thought to be related to the abnormal reactivity of the blood vessels surrounding the sweat glands. Extreme psychological stress leads to constriction of the blood vessels initially, however with increased stress these blood vessels dilate at times to the point of rupture. The blood escapes onto the skin surface through the ducts of the sweat glands admixed with sweat. Sudden and extreme sympathetic activation is thought to be the cause. Hence the prompt relief from propranolol and psychological counselling. The episodes are usually followed by sensation of weakness and dehydration because of loss of both blood and sweat. Out of the 76 cases studied by Holoubek, acute fear and severe mental stress was found to be the most consistent factor. (1)

However, there are a few other hypotheses as given by various other authors. Manonukul et al. have proposed that there might be some defects in the dermis of the skin due to stromal weakness. These defects have communications with vascular spaces in the dermis. These spaces dilate and fill up with blood. When the pressure in these spaces are high enough the blood either escapes through follicular spaces or directly through the skin surface causing "sweating of blood". Once bleeding occurs, these places collapse leaving no signs behind, hence biopsy in most cases reveal nothing. (2)

Contrary to others Zhang et al described the histopathology similar to vasculitis with obstructed capillaries with intradermal bleeding. There was however no abnormality in other skin appendages. (3)

The definitive diagnosis of hematohidrosis is by Benzidine

test. In this test hemoglobin in blood reacts with hydrogen peroxide liberating oxygen, which then reacts with organic reagent producing a green to blue coloured compound. Hemochromogen test confirms that the blood is of human origin. In this test, pyridine causes reduction of haemoglobin resulting in characteristic salmon-pink crystals of pyridine haemoglobin observable under microscope.

The treatment of this condition is not very well defined. Various case reports give different modes of treatment and all seem to have worked. Treatment includes Propranolol which might act by its action on reducing the sympathetic drive. Other modalities include Atropine Sulphate dermal patch. Psychological counselling helps by reducing stress, wherein some cases have been treated with sedatives like alprazolam along with counselling.



Figure 1: Blood sweats over face



Figure 2: Blood sweats over right lower limb

REFERENCES:

1. Holoubek JE, Holoubek AB. Blood, sweat and fear. "A classification of hematidrosis" *J Med.* 1996; 27:115-33.
2. Manonukul J, Wisuthsarewong W, Chantorn R, Vongirad A, Omeapinyan P. Hematidrosis: A pathologic process or stigmata. A case report with comprehensive histopathologic and immunoperoxidase studies. *Am J Dermatopathol.* 2008;30:135-9.
3. Zhang FK, Zheng YL, Liu JH, Chen HS, Liu SH, Xu MQ, et al. Clinical and laboratory study of a case of hematidrosis. *Zhonghua Xue Ye Xue Za Zhi.* 2004;25:147-50.
4. Jerajani HR, Jaju B, Phiske MM, Lade N. Hematohidrosis - A rare clinical phenomenon. *Indian J Dermatol.* 2009;54:290-2.
5. Zhaoyue W, Ziqiang Yu, Jian S, Lijuan C, Xiaojuan Z, Xia B, et al. A case of hematidrosis successfully treated with propranolol. *Am J Clin Dermatol.* 2010;11:440-3