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An Interesting Phenomenon of A Child Sweating Blood

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ABSTRACT

Hematohiderosis is a rare condition in which an individual sweats blood. The conditions in which this phenomenon is seen include extreme stress, psychogenic, as part of a systemic disease, vicarious menstruation and of unknown Etiology. Though various hypothesis have been proposed for its etiology the exact mechanism is still unknown. We report here a healthy 10 year old girl who presented with spontaneous bleeding from various sites in the skin. All blood investigation done were within normal limits. She was treated with oral propranolol to which she showed remarkable improvement.

KEY WORDS

Hematohiderosis, sweating blood

INTRODUCTION

Hematohiderosis is a rare clinical condition in which an individual sweats blood. This condition has been described during ancient times, first in the bible where it describes the sweat of Jesus Christ falling on the ground as drops of blood while praying in the garden of Getsamane and the second was in a story by Leonardo Da Vinci where he describes a souldier who sweat blood before going into battle [1]. The exact etiopathogenesis of this condition is unknown, however stress is found to be the most important factor precipitating it. Various treatment modalities such as propranolol, atropine transdermal patch and psychotherapy has been used in the management of this condition[2]. In this article we report a 10 year old girl who presented with spontaneous bleeding from various parts of the skin.

A ten year old girl presented with complaints of multiple episodes of spontaneous bleeding from the skin for the last one year. These episodes involved oozing of blood from the skin over the face, neck, trunk, arms, ear and scalp. During such episodes, the bleeding would last for about 15-20 minutes and then resolve spontaneously without any treatment. She would reportedly be perfectly well until the next episode of bleeding occurs. There was no history of preceding trauma, easy bruisability, bleeding from injection sites or bleeding diathesis in the family. She was a pre-morbidly well child and is currently studying in 4th grade with a reportedly good scholastic performance.

On examination there were bloody secretions on the skin over the face, arms, ears and trunk which was bright red in colour but was however less viscous than blood indicating that was blood admixed with sweat. On mopping the secretion with a tissue paper, it disappeared immediately not revealing any sign of underlying trauma only to reappear again after a few seconds. Her general and systemic examination was unremarkable.

Figure1

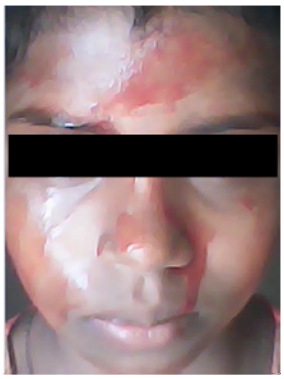

Figure 2

Figure 1 and 2 showing blood exuding from the face of the child

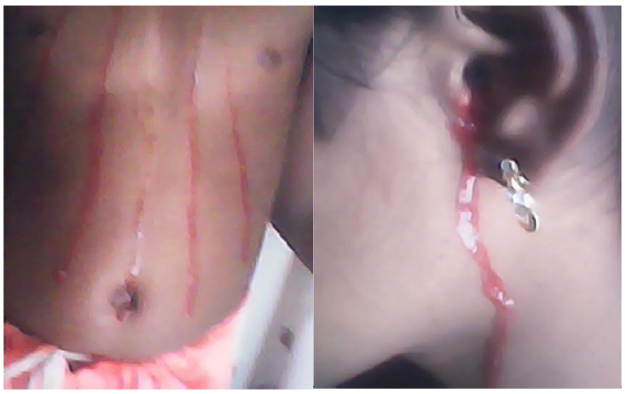

Figure3 **Figure 4**

Figure 3 and 4 representing blood exuding from the abdomen and ear respectively.

Her investigations revealed a haemoglobin of 11.9gm/dl, total leucocyte count of 12,900/cu.mm, platelet count of 4,74,000/cu.mm, ESR of 11mm t 1 hour, prothrombin time (PT) of 12.1 sec (normal 10-12.5sec), INR of 1.12 and APTT of 29.6 sec (normal 24.7-37.5sec). Her complete coagulation work up did not reveal any intrinsic and extrinsic coagulation abnormalities. Skin biopsy from the right forearm revealed the dermis layer to have telangiectasia and mild interstitial infiltrates of neutrophils, lymphocytes, eosinophils and histiocytes. However there were no features of vasculitis. Benzidine test performed on the secretion was positive thus confirming the presence of blood in the fluid. Based on the clinical presentation, a positive benzidine test and the normal blood investigations, a diagnosis of hematohiderosis was made. She was started on oral propranolol and her family were advised to avoid any situation that could cause increased stress in her. She was also evaluated by a child and adolescent psychiatrist. She was followed up at six and ten months and she has not had any relapsethus far.

DISCUSSION

Hematohiderosis is a condition in which the sweat glands of an individual sweats bloods in periods of extreme emotional and physical stress[3]. Mononukul et al proposed that this condition be renamed as hematofolliculohiderosis as it appeared that the blood and sweat like fluid exuded along the follicles[4]. Holoubek in 1996 studied seventy six cases of hematohiderosis and arrived at a classification for this condition based on the causative factor. These included vicarious menstruation, as a component of a systemic disease, excessive exertion, psychogenic and unknown. Intense fear and contemplation appear to be the most commonly encountered cause[4,5]. After a comprehensive evaluation, the causative factor in our child could not be identified.

Various theories have been proposed as the etiopathogenesis for this condition. One hypothesis is that multiple small blood vessels form a mesh like pattern around the sweat glands. In conditions of extreme stress these blood vessels constrict around the sweat gland and as the anxiety and stress passes, these blood vessels dilate to a point where they rupture. The blood therefore goes into the sweat glands which extrudes it out on the surface of the skin along with the sweat[6]. Another mechanism that has been proposed in recent years has been defects in the dermis that lead to stromal weakness. These defects have likely communications with the dermis and it enlarges to become blood filled spaces once the blood comes in. As the positive pressure inside these spaces increase, it exudes the blood either directly on the skin surface or via the follicles. Once the blood is exuded, the space collapses without leaving a scar[4]. Pathological studies have revealed some intradermal bleeding and obstructed capillaries, with no abnormalities in the hair follicles, sweat and sebaceous glands. They hence inferred that the pathological basis may be a distinctive vasculitis[6]. However pathological examination in our child did not reveal any features of vasculitis.

There has been no consensus on the treatment modalities for this condition. Studies have reported the use of various pharmacological agents such as propranolol, amitriptyline and atropine transdermal patches with varying degrees of success[2,7]. Our child was managed with oral propranolol and has shown remarkable clinical improvement with her not having had a relapse of symptoms in the last ten months. We report this case because of its rarity and we believe that a better understanding of its etiopathogenesis would provide us with more treatment options for this unusual and rare disorder with rather distressing symptoms.

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