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Haematidrosis: The Rare Phenomenon of Sweating Blood

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Abstract

Objectives: Haematidrosis, also known as haematohidrosis, is a very rare condition where blood is excreted with sweat. As only a few cases have been described in the literature, we present guidelines on management of this rare phenomenon.

Case: A 44-year-old man presented with self-limited and spontaneous bleeding episodes from different parts of his body. This had started 2 weeks before admission after an episode of extreme emotional stress. Medical history and laboratory tests were normal. The microscopic examination of a sample of the fluid excreted confirmed all blood elements.

Conclusion: The disorder is thought to be related to activation of the sympathetic nervous system. The use of benzodiazepines and beta blockers may be helpful in controlling the bleeding episodes and give some comfort to the patient.

Keywords: Haematidrosis, haematohidrosis, sweating blood

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Introduction

Haematidrosis, also known as haematohidrosis, is a rare condition in which, under extreme physical or emotional stress, blood is excreted with sweat. It has long been associated with religious beliefs; for example, the description in the Bible of Jesus sweating blood in the garden of Gethsemane (Luke 22:43–44). Recently, however, scientific explanations have been proposed in multiple papers. The exact cause of this phenomenon is not completely understood, but activation of the sympathetic nervous system has been implicated [1]. In cases of extreme anxiety, the net-like form of multiple blood vessels that feed the sweat glands constricts and then dilates to the point of rupture. Then, the blood goes into

the sweat glands, which push it along with sweat to the surface, presenting as droplets of blood mixed with sweat [1]. It has also been suggested to be a component of systemic disease, vicarious menstruation and a new form of vasculitis and to be associated with primary thrombocytopenic purpura [1–5].

At present, the treatment is not well established, but benzodiazepines and propranolol have been reported to be effective. A further understanding of the aetiology may assist in the development of new treatments.

Case report

A healthy 44-year-old man presented with recurrent episodes of spontaneous and intermittent skin bleeding. He bled especially at night from different parts of his body, especially the face, forearms, trunk and limbs, but not from his mucous membranes. The episodes were limited to 1–2 min, and there was no standard time for recurrence.

His medical history showed no underlying illness and he took no medication or other toxins. He had lived in Portugal for several years and had no pets or exposure to other animals. There was no history of physical trauma, but his family was experiencing an extremely stressful time and his mother had died recently. No one else in his family had every suffered from a similar condition.

Physical examination showed excretion of bloody sweat (*Fig. 1*). The colour of tears, saliva and urine was normal.

The results of extensive laboratory tests were normal, including complete blood count and coagulation tests (erythrocyte count 5.77×10^{12}/l; haemoglobin: 16.1 g/l; haematocrit: 44%; mean cell volume (MCV) 86 fl; platelets: 330×10^{9}/l; Activated Partial Thromboplastin Time (APTT): 22.8 s; prothrombin time: 11.9 s). The bloody sweat from his forehead was positive to the benzidine test and microscopic examination of the excreted fluid revealed red blood cells and other components of peripheral blood. The patient refused to have a skin biopsy performed. He was started with alprazolam 0.25 mg once daily and the episodes started to decrease after 2 weeks.

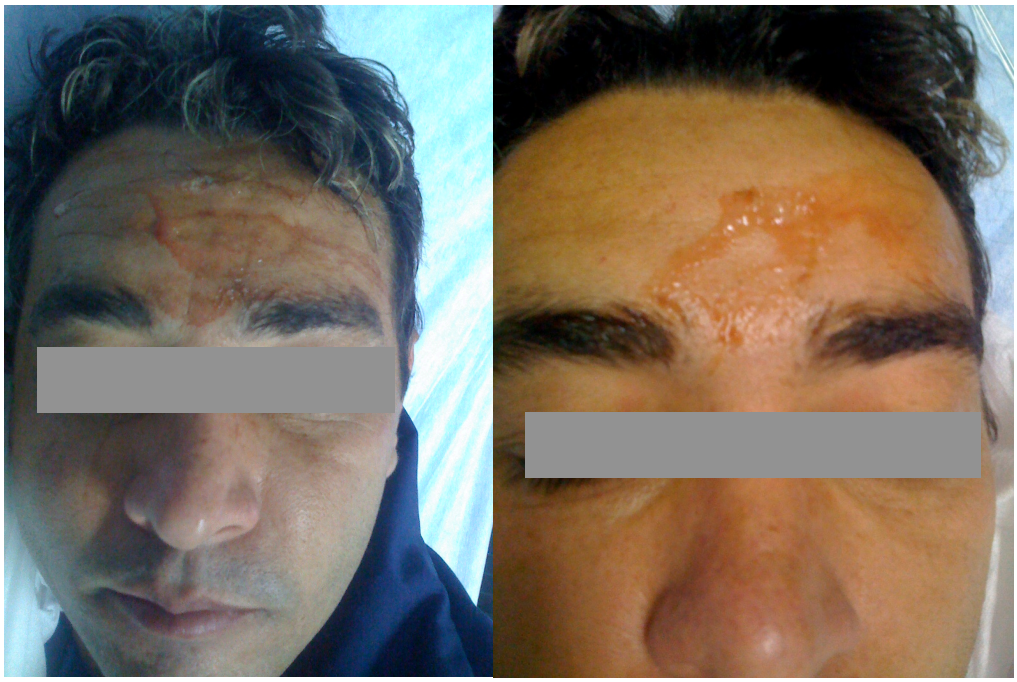

Figure 1. Bloody sweat drops during episodes.

Discussion

Acute stress and intense mental contemplation, the most frequent causes seen in other cases [1–5], were seen in our case associated with profound sadness and posterior depression.

It is thought that activation of the sympathetic nervous system causes blood vessels adjacent to the sweat glands to rupture, causing haemorrhage into the ducts of the sweat glands. When a biopsy is made immediately, it may show multiple blood-filled spaces that open directly to the follicular canals or to the skin surface. After the exudation, these spaces collapse, and a biopsy will not be helpful [1].

Spontaneous remission cannot be ruled out. However, the use of alprazolam 25 mg once daily did appear to decrease the number of episodes within 2 weeks, with no further episodes occurring for the next 2 months. Other drugs, such as propranolol and atropine, have also been shown to decrease episodes of bleeding.

Learning Points

- Although this disorder is associated with religious beliefs, various clinical reports and scientific studies have been carried out.
- Psychological issues are important associated factors and should be investigated.
- Benzodiazepines and beta blockers may be helpful in controlling the bleeding episodes.

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