9-YEAR-OLD GIRL WITH UNUSUAL BLEEDING

Samal N.[1], Phiske M.[1], Someshwar S.[1,2]
[1]Dept. of Dermatology, Venereology and Leprosy, MGM Institute of Health Sciences, Navi Mumbai
[2]Department of Dermatology, Venereology and Leprosy, Kasturba Medical College, MAHE, Mangalore

Keywords Blood, skin, child.

Case report. A 9-year-old girl presented for evaluation of recurrent episodes of cutaneous bleeding. The initial episode occurred six months prior and resolved spontaneously. Over the last 15 days, however, the episodes had become daily. There was no history of prior trauma, physical or mental stress, or systemic disorders. The patient was not taking any medications, and there was no family history of similar conditions. Dermatological examination revealed no active skin lesions at the time of the visit; however, the presence of blood on the face, upper limbs, abdomen, and lower limbs had been photographically documented by a family member and was presented during the consultation (Figs. 1, 2). A biopsy obtained from the normal skin of the left forearm – site of previous bleeding – revealed moderate basket-weave hyperkeratosis, irregular acanthosis, increased pigmentation in the basal layer, papillary dermal edema, small capillary vessels in the papillary dermis, and multiple extravasated erythrocytes throughout the dermis (Fig. 3). A benzidine test performed on the tissues used to wipe the blood yielded a positive result. A psychiatric evaluation, conducted to rule out psychogenic causes, revealed no abnormalities. Following a definitive diagnosis of hematohidrosis, the patient was started on oral propranolol at a dose of 10 mg three times daily for six weeks, which resulted in a marked reduction in bleeding episodes.

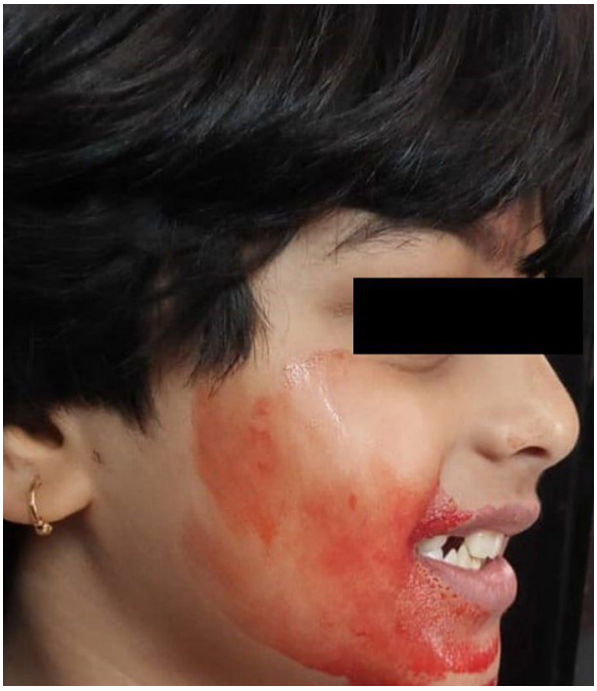

Fig. 1

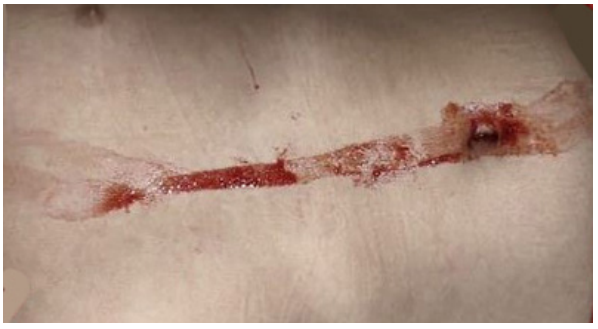

Fig. 2

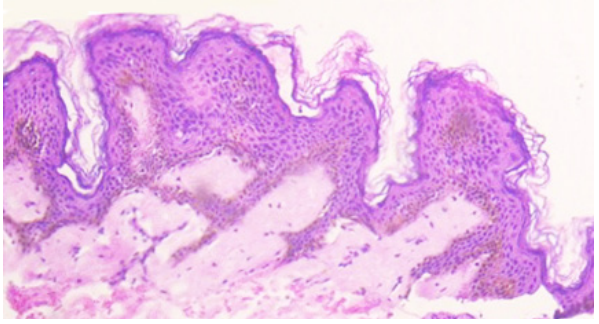

Fig. 3

Fig. 1, 2, 3: Hematohidrosis with bleeding of the face and trunk (Figs. 1, 2). In Fig. 3 (H&E, x40) edema of the papillary dermis.

Discussion. Hematohidrosis is characterized by episodes of blood discharge through intact skin or mucosa, often triggered by severe stress or anxiety; these bleeding episodes typically resolve spontaneously. In addition to the skin, where it often appears mixed with sweat, bleeding may occur from the nose, ears, or as bloody tears (hemolacria). Hematohidrosis can also occur during primary thrombocytopenic purpura, following excessive physical exertion, or without any documented cause (1, 2). The discharged blood varies in color from dark red to pinkish, likely due to dilution with varying amounts of sweat.

However, a histopathological study (3) found no alterations in the sweat glands or the presence of blood within them. Instead, it identified dermal cavities filled with blood that were not lined by endothelium. This led to the hypothesis of dermal connective tissue defects, somehow connected to capillaries, which fill with blood when blood pressure increases (e.g., due to intense stress). The blood then exits directly onto the skin or through follicular openings; once the dermal cavities empty, the skin returns to normal. This would explain the absence of histological changes outside of active bleeding episodes.

It is essential to distinguish hematohidrosis from other conditions with similar presentations, such as chromidrosis and pseudochromidrosis (4). Chromidrosis is a rare condition causing colored sweat—typically yellow, blue, green, brown, or black—due to high concentrations or oxidation of lipofuscin pigment in the apocrine glands. Treatment involves botulinum toxin type A to prevent pigment release, as the condition is chronic and usually recurrent. Pseudochromidrosis occurs when colorless sweat comes into contact with external dyes or pigments and is managed by eliminating extrinsic causes or using antimicrobials to eliminate causative bacteria.

Skin biopsy in hematohidrosis may reveal blood-filled spaces if performed during an episode (3), or papillary dermal edema (1). The benzidine test is used to confirm the diagnosis. Benzidine (a transparent powder) is dissolved in glacial acetic acid, followed by the addition of hydrogen peroxide. The iron in the hemoglobin acts as a catalyst, causing the oxidation of the transparent benzidine. This oxidation converts benzidine into a blue derivative, indicating a positive result (2, 5).

The management of hematohidrosis focuses on addressing underlying stress and anxiety through therapies such as cognitive-behavioral therapy, relaxation techniques, and pharmacological intervention (beta-blockers, antidepressants), although no definitive therapy exists (6, 7). Propranolol, at a dose of 10 mg orally every 8-12 hours, acts by modulating sympathetic nervous system activation and reducing capillary pressure (6).

Conclusion. This case of hematohidrosis is presented due to its rarity and to alert clinicians to consider this diagnosis, thereby reassuring patients and avoiding unnecessary, invasive investigations.

Conflicts of interest

The authors declare that they have no conflicts of interest.

Acknowledgments

The authors would like to express their gratitude to the Department of Pediatrics, MGM Institute of Health Sciences, Kamothe, Navi Mumbai, Maharashtra.

Address to:
Dr. Meghana Phiske
N-17, sector 7, Vashi, Navi Mumbai 400703
e-mail: phiskemeghana@gmail.com

References

1) Jerajani HR, Jaju B, Phiske MM, Lade N. Hematohidrosis - a rare clinical phenomenon. *Indian J Dermatol*. 2009;54(3):290-2.
2) Patel RM, Mahajan S. Hematohidrosis: A rare clinical entity. *Indian Dermatol Online J*. 2010;1(1):30-2.
3) Manonukul J, Wisuthsarewong W, Chantorn R, et al. Hematidrosis: a pathologic process or stigmata. A case report with comprehensive histopathologic and immunoperoxidase studies. *Am J Dermatopathol*. 2008;30(2):135-9.
4) Pari T. Hematohidrosis–A rare case. *Indian Dermatol Online J*. 2019;10(3):334-5.
5) IARC Working Group on the Evaluation of Carcinogenic Risks to Humans. Chemical agents and related occupations. *IARC Monogr Eval Carcinog Risks Hum*. 2012;100(Pt F):9-562.
6) Palabiyik AA. Efficacy of beta-blockers in the treatment of hematidrosis: a systematic review. *World J Exp Med*. 2025;15(4):110936.
7) Alasfoor S, Albashari M, Alsermani A, et al. A strange occurrence of hematohidrosis: a case report from Saudi Arabia. *Cureus*. 2022;14(1):e21682.