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**Case Report**

# Bleeding hands in a young girl

**K. Venkataramana Reddy*, D. Deepthi, Chapay Soren, Sailaja K., Gouthami N.**

Department of Pediatrics, S. V. S. Medical College, Mahabubnagar, Telangana, India

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***Correspondence:**
Dr. K. Venkataramana Reddy,
E-mail: reddy.venkataramana1@gmail.com



## ABSTRACT

Hematohidrosis is a rare disorder involving the spontaneous excretion of sweat contaminated by blood cells. We reported the case of an 8-year-old girl with unusual painless bleeding from her fingertips with no underlying disease or psychotic disorder. On examination, it disappeared as soon as it was wiped without leaving any sign of trauma and reappeared within a few seconds. Her secretions were confirmed as blood with a benzidine test and blood components were observed on microscopic examination of the fluid. Thus, a diagnosis of hematohidrosis was made and her symptoms decreased after treatment with oral propranolol.

**Keywords:** Bleeding fingers, Painless, Benzidine test, Hematohidrosis

## INTRODUCTION

Hematohidrosis is a rare disorder that is characterized by spontaneous bleeding in normal skin and intact mucosa. Causes can be systemic disorders, bleeding disorders, vicarious menstruation, excess exertion, and psychological stressors.[1,2] We hereby presented a case of an 8-year-old girl who presented with recurrent spontaneous bleeding mixed with sweat from intact skin, without any preceding stressors or psychotic disorders, diagnosed as hematohidrosis.

## CASE REPORT

An 8-year-old female child presented with complaints of bleeding from the fingertips of both hands and legs for the past 3 to 4 months. The bleeding was spontaneous, episodic, unpredictable, painless, clear, and localized to the fingertips, and it subsided spontaneously as soon as the site was wiped. Parents revealed bleeding occurs mostly during the early hours of the day. Several episodes of bleeding occurred before admission. There was no history of bleeding from any other site. There was no evidence of any trauma or scratch marks. The child's parents denied a history of emotional or physical stress before the bleeding. We admitted the child for observation to rule out self-inflicted injury or malingering. Upon admission, we witnessed spontaneous bleeding at our hospital.

There was no history of bleeding gums, blood in urine and stools, blood staining of undergarment, easy bruising, and petechiae. There was no evidence of any sign suggestive of bleeding. Her family history was negative for bleeding disorders.

When examined, the child was alert, oriented, comprehended, and communicated relevantly without any signs of emotional or psychological disturbances. Her vitals were within normal range. There was no pallor, icterus, clubbing, or lymphadenopathy. Her anthropometry was appropriate for her age.

Local examination of both hands showed thin, clear bloody secretions over the pulp of the fingers which on wiping off, showed an intact underlying skin without any tenderness (Figure 1). Other systemic examination findings were unremarkable for oral ulcerations, hepatosplenomegaly, bony tenderness, and joint swellings. The secretion was confirmed to be blood by a

positive benzidine test and microscopic examination also revealed blood elements (red blood cells 15 /high power field) in the sample. Her hemogram, prothrombin time, and active partial thrombin time were normal. Other laboratory workups for clotting disorders, liver function tests, ANA, and thyroid profile were within normal limits. The child's parents denied consent for a skin biopsy. After ruling out organic disorders, a diagnosis of hematohidrosis was made and she was started on oral propranolol 10 mg twice a day (at 1 mg/kg/day). The number of episodes subsided during the treatment but was not completely resolved. She is currently under follow-up with some clinical improvement.

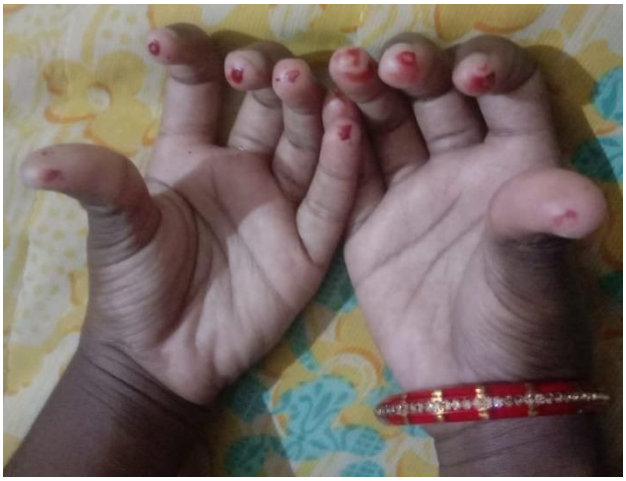

**Figure 1: Local examination of both hands showed thin, clear bloody secretions over the pulp of the fingers which on wiping off, showed an intact underlying skin without any tenderness.**

## DISCUSSION

Hematohydrosis is a rare disorder with unknown etiology. It manifests as spontaneous, recurrent, self-limiting bleeding through intact skin.[3] The proposed theories for this condition include high vascular pressure causing blood to pass into the ducts of sweat glands, dermal vessel vasculitis, and sympathetic nervous system activation, which causes the peri glandular vessel to constrict and then expand, allowing blood to pass to the duct and causing hematohidrosis. The rupture of the capillaries causes blood to extravasate into the sweat glands. It presents as blood admixed with sweat-like fluid and exudes via the follicular canals.[1,4]

As this is extravasated blood, its contents are identical to blood components on the microscopic examination.[2]

The exact mechanism for rupture was unknown but, few postulated that during the stress periods "the fight or flight response" invokes sympathetic activation resulting in vasoconstriction of the affected blood vessels around the sweat glands leading to vascular rupture with blood extravasation the sweat.[5,6]

Few others mentioned that there may be some defects in the dermis that cause stromal weakness. This defective dermis will then communicate with vascular spaces in the dermis that will eventually dilate and enlarge as blood-filled spaces.

When the pressure inside the spaces increases substantially, resulting in the leakage of blood directly to the surface of the skin or via follicular canals followed by the collapse of the canals and stops bleeding without any scar, this explains the bleeding episodes are sometimes intermittent and self-limiting. Among the bleeding sites, the face is the most commonly reported site of hematohidrosis followed by the upper limbs, abdomen and pelvis, upper trunk, and lower limbs.[7]

The diagnosis of hematohidrosis is considered, if the following criteria are met: recurrent, spontaneous, painless, and self-limited oozing of bloody discharge, witnessed and confirmed by health professionals; the usual blood components are found on biochemistry studies of the discharge, and the site of bleeding is intact with no abrasion, telangiectasia, or purpura, and after wiping the area, there is no evidence of oozing. All of these criteria must be met to rule out organic bleeding disorders, self-inflicted bleeding, factitious disorder by proxy, and chromhidrosis (colored sweat).[8]

The differential diagnosis for the disorder includes chromhidrosis, self-inflicted bleeding, factitious dermatitis, vasculitis, and platelet and coagulation disorders.[9]

Extreme physical or emotional stress will cause intense sympathetic activity, resulting in bleeding episodes. So, some authors suggested beta-blockers like propranolol. With oral propranolol 10 mg twice daily for 2 weeks, though there was a significant decrease in the number of episodes but complete resolution of symptoms was not achieved.

## CONCLUSION

Hematohidrosis is a rare disorder in which capillary blood vessels feed the sweat glands rupture, causing them to exude blood along with the sweat. This spontaneous bleeding episode occurs under extreme physical or emotional stress. The exact etiology is unknown. Because of its rarity, there is no standard treatment protocol only options available are beta blockers, anxiolytics, and psychotherapy but none have been proven to be effective. Further similar and associated case reports are required for a better understanding of this disorder.

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## REFERENCES


1. Patel RM, Mahajan S. Hematohidrosis: a rare clinical entity. Ind Dermat Online J. 2010;1(1):30-2.
2. Jayaraman AR, Kannan P, Jayanthini V. An interesting case report of hematohidrosis. Indian J Psychol Med. 2017;39:83-5.
3. Murota H, Kotobuki Y, Yamaga K, Yoshioka Y. Female child with hematidrosis of the palm: case report and published work review. J Dermatol. 2020;47(2):166-8.
4. Alasfoor S, Albashari M, Alsermani A, Bakir M, Alsermani M, Almustanyir S. A strange occurrence of hematohidrosis: a case report from Saudi Arabia. Cureus. 2022;14(1):21682.
5. Badry MS, Elbadry MI, Ragab ARA, Ahmed ME. Hematohidrosis: reports and update of clinically mysterious phenomenon. Indian J Otol. 2020;26:99-102.
6. Ferdous A, Islam F, Zahangir TI. Hematohidrosis: a mysterious and rare disorder. Arch NIMH. 2020;3(2):40-2.
7. Octavius GS, Koleta T, Garniasih D, Yanto TA. Hematidrosis and hemolacria: report of two cases from Indonesia. IJBC. 2021;13(3):98-101.
8. Vikram A, Viagulum JC, Varadarajan P. School examination stress precipitating hematohidrosis in a girl. Indian Pediatr Case Rep. 2023;3:90-2.
9. Kumar S, Bhoi KK, Yelme G. Hematohidrosis: a rare and mysterious case. Asian J Case Rep Med Health. 2021;4(1):68-71.


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