You sweat out, I bleed out!!!
CASE HISTORY

- 11 year old girl
- c/o spontaneous bleeding from forehead and buccal mucosa
- 2 -3 episodes /day * 3 days
- Bleeding episodes lasted for seconds – minutes
- No h/o bleeding from any other site
- No h/o trauma
- No h/o allergy / drug intake
PAST HISTORY

- h/o similar episode 6 months back
- lasted for 3 days resolved spontaneously
- No h/o prior hospitalisation
- No h/o any systemic illness
• Developmental milestones normal.

• Family history: No other family member had similar complaints.

• Menstrual h/o: attained menarche 6 months back irregular cycles. no h/o menorrhagia.

• Immunised till date.
On gross examination, there was oozing of blood stained fluid which disappeared as soon as it was mopped. Underlying skin was normal and it reappeared within few seconds. The blood stained fluid could not be extruded on manipulation. There was no local tenderness.
On General examination,
- alert, conscious, oriented, afebrile, hydration fair
- no cyanosis/ pallor/ icterus/ clubbing
- skin normal
- mouth – hyperpigmented gingiva +
- no dental caries
- Vitals – stable
- Anthropometry – Ht-138 cm, Wt- 28.5 kg
  Tanner stage -2

Systemic examination: normal
During the course of stay in our hospital, child had bleeding episodes around 5-10 times everyday otherwise child remained stable through the stay.
Lab investigation:

- **TC** – 9,900 ; **DC** – P 53, L38, M 9 ; **Hb** -11.7 g/dl
- Platelets – 2.2 lakhs , **PCV** – 34.0
- Liver/ renal parameters – within normal limits
- I.vy bleeding time 3.30mins ; **CT** – 5 mins
- **PT** – 13.6 sec ; **aPTT**- 36.0 sec ; **INR** – 1.04
- **P.smear** – mild normocytic hypochromic anaemia
- USG abdomen - normal
- Urine examination – normal
On collection of the secretion and examination of its smeared preparation under a microscope, plenty of RBCs, occasional WBCs and numerous squamous cells seen.
Squamous cells

RBC's

Squamous cells
Squamous cell

Plenty of RBC’s

Numerous cocci
Benzidine test +ve

- Reacts with H₂O₂
- Can react with organic reagents
- Producing green to blue coloured solution

HB in blood

Liberates O₂

BLUE COLOUR
To Summarize

Bleeding from intact skin

Smear showing blood elements with squamous cells

Benzidine test + ve

A case of hematidrosis
How to proceed ???

- We planned for a
- Skin biopsy
- CGC opinion
Discussion:

- **Hematidrosis**, also known as hematohidrosis or hemidrosis is an extremely rare condition.

- Till now 10 cases has been published in literature.

- Several **historical references** have been described, notably by *Leonardo da Vinci*, describing a soldier who sweated blood before battle, and men unexpectedly given a death sentence, as well as descriptions in the Bible that Jesus sweated blood in the garden of Gethsemane (Luke 22:43-44). [1]
Condition in which capillary vessels that feed the sweat glands rupture causing blood to exude through skin surface

- Acute fear, intense mental contemplation, excessive exertion, extreme physical stress are most common causatives

- Extravasated blood has identical cell components as peripheral blood
severe psychological stress/ acute anxiety

sympathetic system activation
(fight/flight reaction)

resulting hemorrhage of vessel supplying sweat glands
causing entry of blood through sweat ducts

bloody sweat
Alternative Theory

Some defect in dermis (stromal weakness)

Defects will communicate with vascular spaces in dermis

As blood comes through these spaces will dilate and enlarge

As blood fills in whenever there is enough positive pressure inside, blood will be exuded out via follicular canals or directly through skin surface. Later they will collapse leaving no scar
INVESTIGATIONS

1. Diagnosis of hematohidrosis is by Benzidine test in which hemoglobin in blood reacts with hydrogen peroxide liberating oxygen, which then reacts with organic reagent producing a green to blue coloured compound.

2. Hemochromogen test confirms that the blood is of human origin. In this test, pyridine causes reduction of hemoglobin resulting in characteristic salmon-pink crystals of pyridine hemoglobin observable under microscope.
Regarding skin biopsy, it should be done immediately.

Because after these spaces get collapsed it will be of no help in identifying them.
TREATMENT

- Till date there is no specific management.

- Vitamin C and hemostatic drugs are not effective.

- Manolukul, et al. used lorazepam as anxiolytic in a case and got excellent result.

- Zhaoyue, et al. used propranolol with the hypothesis of sympathetic overactivity and it was found to be effective.
KEY TO SUCCESSFUL THERAPY

- Establishing therapeutic alliance
- Management of mood and anxiety disorders
- Psychosocial intervention for psychosocial trauma if any..
- Positive and negative reinforcement techniques
- Shifting of focus from symptoms to cause


Child who presented with hematohidrosis (sweating blood) with oppositional defiant disorder

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Thank you!