

You sweat out,
I bleed out!!!

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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 with in few seconds .
- ❖ The blood stained fluid could not be extruded on manipulation .
- ❖ There was no local tenderness



SAMPLE COLLECTED



- 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



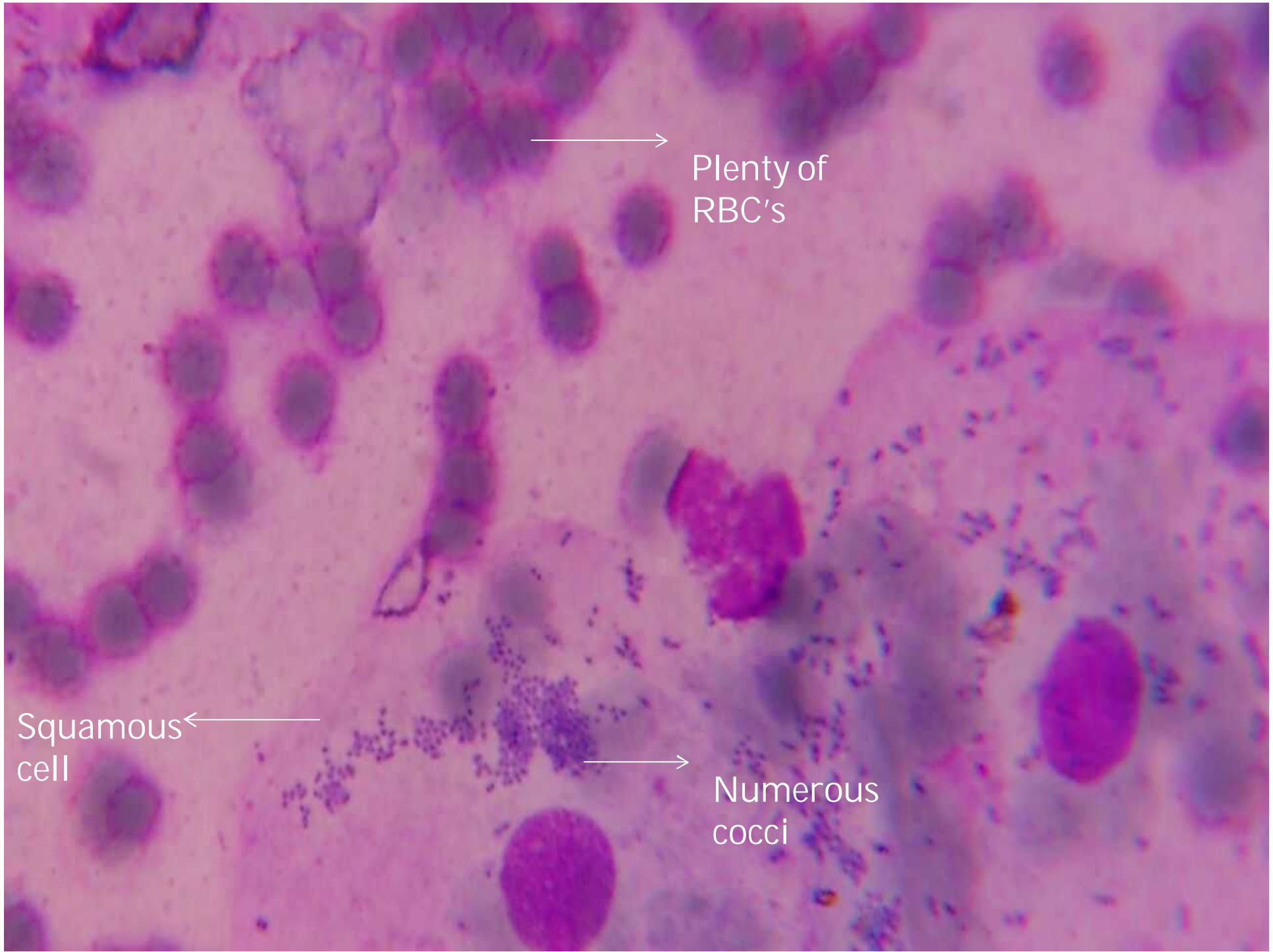
- On collection of the secretion and examination of its smeared preparation under a microscope , plenty of RBCs , occasional WBCs and numerous squamous cells seen .



→ RBC's

This is a microscopic image of a blood smear stained with a purple dye. The field is filled with numerous small, round, pinkish-red cells, which are red blood cells. Some larger, flat, squamous cells are also visible, characterized by their thin, irregular shape and dark purple nuclei. The background is a light pinkish-purple color.

→ Squamous cells



Plenty of
RBC's

Squamous
cell

Numerous
cocci

Benzidine test +ve

HB in
blood

- reacts with H_2O_2

Liberates
 O_2

- Can react with organic reagents

BLUE
COLOUR

- Producing green to blue coloured solution



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

Pathophysiology



severe psychological stress/ acute anxiety



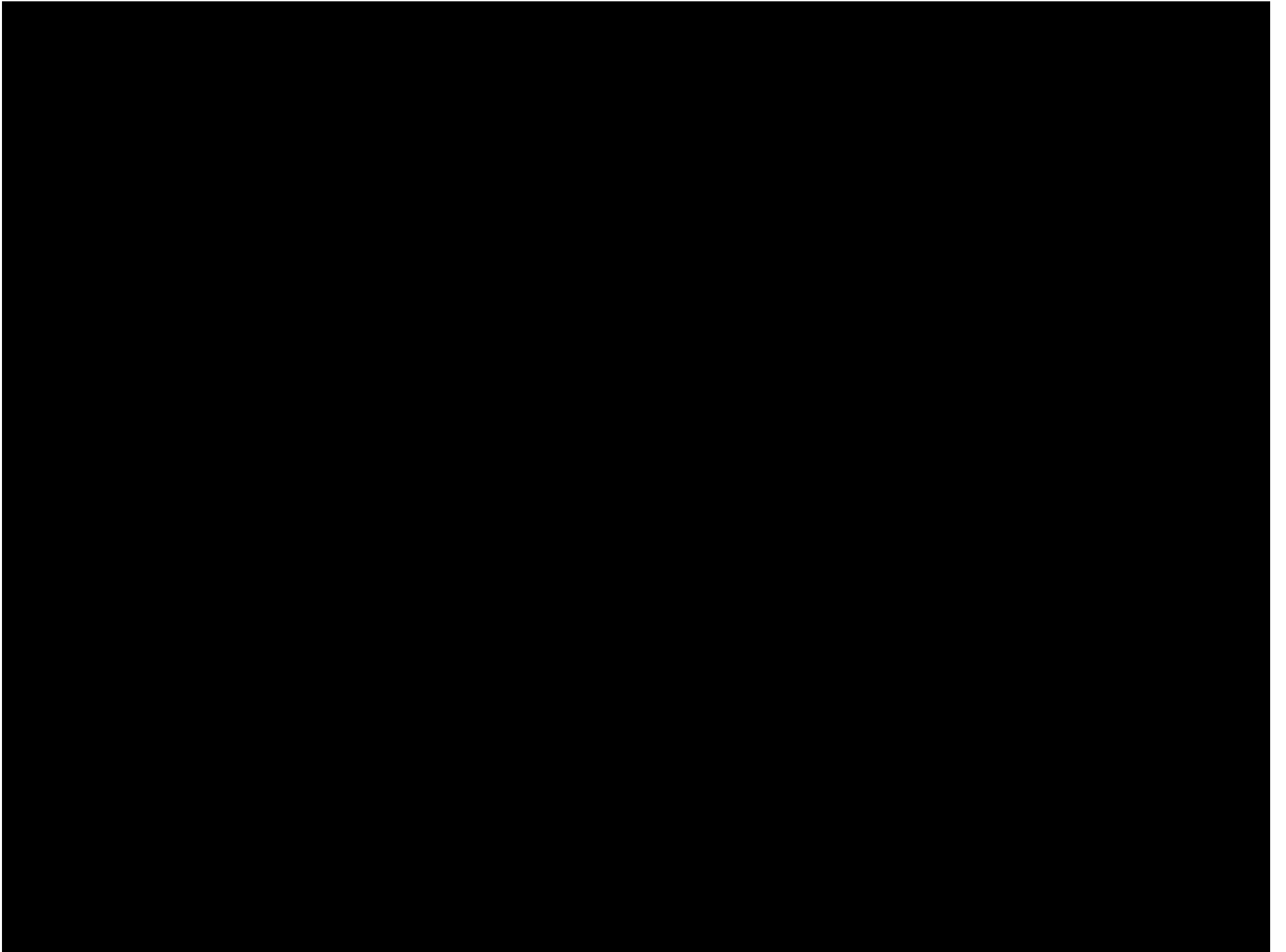
sympathetic system activation
(fight/flight reaction)



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 gets 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

LITERATURE REVIEWS



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

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