CHILD WITH ALTERED SWEAT COLOR

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Case capsule:

- 3½ year old female
- First born of non consanguineous marriage
- Developmentally normal

- Presented with 3 months history of intermittent Grape colored staining of pillow after overnight sleep
- Her past history was significant for wheezing.
• Her clinical examination was significant for bilateral wheeze, otherwise normal - diagnosed with MTW - started on albuterol MDI

• her growth and development - normal

• **differential diagnosis in our mind were:**
  - ? is it alkaptonuria
  - ?? sweat gland abnormality (chromhidrosis)
  - ??? is this due to drug/chemical intake
• **refining history:**
  1. No prolonged exposure to any drugs,
  1. No exposure to any dyes, paints, coal or chemicals,
  1. No intake of any colored foods,
  • Urine, saliva and tear color was normal
  • On probing history, mother said there was staining of clothes in the past also, which she ignored.
• **Investigations:**
  a. Routine blood tests (CBC and RFT/LFT) were normal
  b. Urine homogentisic acid was normal (repeated twice)
  1. UV light examination of stained clothes - no fluorescence
  2. Decided to go ahead with skin biopsy: Taken from multiple sites (scalp, trunk) and sent for HPE
any guess in diagnosis...?????
Showed increased PAS+ lipofuscin granules with yellow fluorescence
Diagnosis of apocrine chromhidrosis was then made
• Parents were reassured and explained the prognosis
• No specific treatment was advised.
discussion...
• Sweat gland is a skin appendage
• Two types of glands produce sweat:
  - eccrine
    - clear, odorless
    - body temperature
  - apocrine glands
    - thick, milky sweat
    - body odor.
• chromhidrosis is colored sweat.

• Regarding the disorders related to colored sweat, there are 3 conditions:

  1. Apocrine chromhidrosis
  1. Eccrine chromhidrosis
  1. Pseudo chromhidrosis
Apocrine chromhidrosis...
Location of apocrine glands:

1. Skin of face, trunk, scalp
2. Areolae
3. Axillae
4. Anogenital regions
- Chromhidrosis is usually apocrine in origin

- Lipofuscin (yellowish brown pigment) pigment is responsible for the colored sweat.
  1. This pigment is produced in the apocrine gland
  1. its various oxidative states(yellow, green, blue, brown, black)
What happens in chromhidrosis:

• lipofuscins are found in a higher-than-normal concentration

  or

• higher-than-normal state of oxidation in apocrine glands

  *why some glands experience these changes is unclear.*

• Substance P is also postulated to be an important neurotransmitter in this process
• **Sex**
  No sexual predilection is reported for chromhidrosis.

• **Age**
  Chromhidrosis is noted after puberty, when the apocrine glands are activated. However, one case of an infant with chromhidrosis has been reported.

  Aura of warmth or a prickly sensation prompted by emotional or physical stimuli may precede the onset of colored sweat.
Differential diagnosis

1. Alkaptonuria
2. Pseudomonas infection
3. Bleeding diathesis
4. Hyperbilirubinemia
5. Addison’s disease
6. Hemochromatosis
Diagnosis

- **Biopsy specimen** - Oxidized lipofuscin granules, positive on periodic acid-Schiff stains

- Wood’s Lamp

- Induce colored sweat with pharmacologic stimulation

- Clothing fibers in contact with the secretions may also fluoresce
Most important treatment:
Patients can **manually or pharmacologically** empty the glands to achieve a symptom-free period of about 48–72 hours or until the glands replenish the pigment.
Chromhidrosis persists throughout life, but slow regression of the disease is noted, as apocrine glands regress with time.
Literature.....

- first case was described in 1709 by Yonge. Orange color in a post menopausal woman

- Total of 30 cases in literature

- 2 from India(chrom and pseudochrom)
IN PEDIATRICS....3 CASES

Isolated areolar apocrine chromhidrosis.
Griffith JR.

Infant with chromhidrosis.
Carman KB, Aydogdu SD, Sabuncu I, Yarar C, Yakut A, Oztelcan B.
To the best of our knowledge, our 3½ year old patient might be the

- 2nd youngest case in the literature
- 4th pediatric case
- youngest in India