BISACODYL INDUCED CHROMHIDROSIS- A CASE REPORT
BHARATHI SUNDARAMOORTHY
Department of Dermatology, Venerology & Leprosy,
MADURAI MEDICAL COLLEGE AND HOSPITAL

Abstract : Chromhidrosis is secretion of colored sweat. Eccrine chromhidrosis is very rare and occur with ingestion of certain drugs and dyes. We present a case of eccrine chromhidrosis due to tartrazine coated drug - Bisacodyl (Dulcolax). A 58 years old male presented to our skin department with 6 months history of yellow staining of his clothes on back side. He gave history of daily intake of Bisacodyl for 6 months. He denied other contacts with yellow products on cloth. Detailed clinical evaluation was done. Routine investigations including urine sample analysis, Wood's lamp fluorescence of skin, stained cloth and skin biopsy was done. Pathology and differential diagnosis were discussed. Based on history and clinical evaluation diagnosis of eccrine chromhidrosis due to the drug Bisacodyl was made. Proper correlation of disease entity with the drug was made by observing the disappearance of yellow staining of clothes after drug stoppage. This was further confirmed by high performance liquid chromatographic analysis of the sample collected by extraction from stained cloth. An eccrine route of excretion of water soluble dyes can produce chromhidrosis. Tartrazine coated in Bisacodyl, is a pyrazole aniline dye, mainly excreted in urine. Being water soluble, it can excrete in sweat resulting in chromhidrosis, not described in any literature. This case is presented here to emphasize the uncommon cause of eccrine chromhidrosis due to a common drug Bisacodyl (Dulcolax) and also for its rarity.

Keyword : Bisacodyl, Tartrazine, Chromhidrosis.

CASE REPORT:
A 58 years old male presented to our skin department with yellow staining of cloth covering the back, for the past 6 months. It was noticed more often following physical exertion. He denied contacts with yellow colored products like chemicals, dyes, deodorants and colored cloth. The discoloration was not related to his occupation. There was no specific odor or change in skin color. There was no history of psychiatric illness or local or systemic complaints. He was not a known diabetic or hypertensive. He gave history of taking 2 tablets of bisacodyl [Dulcolax] every night for chronic constipation for a period of past 6 months and was on drug at the time of examination. General and systemic examinations were normal. Examination of cloth showed patchy yellow stain on his inner garment. On dermatological examination skin appeared normal but examination after 10 minutes of exercise showed clear sweat and no appreciable color change on inspection. Blotting sweat with tissue paper showed slight yellowish stain. All the routine laboratory work, gram stain and culture of skin scraping from affected area and biopsy were normal. Urine analysis showed increased yellowish discoloration. Wood's lamp fluorescence of skin, stained cloth and skin biopsy was done. Pathology and differential diagnosis were discussed. Based on history and clinical evaluation diagnosis of eccrine chromhidrosis due to the drug Bisacodyl was made. Proper correlation of disease entity with the drug was made by observing the disappearance and reappearance of yellow stain after drug stoppage and reintroduction of drug.
Based on history, clinical evaluation, lab works, trial works, a diagnosis of true eccrine chromhidrosis due to drug bisacodyl was made. For further confirmation, photometric and chromatographic analysis of the sample collected from extraction of stained cloth were done. Spectro photometric analysis was not contributory but however the compound was detectable in high performance liquid chromatography. A final diagnosis of chromhidrosis due to bisacodyl was made and literature was reviewed.

**DISCUSSION**

Chromhidrosis is secretion of colored sweat. First case of chromhidrosis was published in 1709 by Yonge of Plymouth.¹ Cilliers and De beer classified Chromhidrosis into apocrine, pseudo eccrine and true eccrine chromhidrosis.² Apocrine chromhidrosis is production of brown, black, blue, green or yellow colored sweat seen in areas of axilla, face, areolar region and occurs due to oxidized lipofuscins which autoflouresce at 360nm on skin, stained cloth and by autoflourescence microscopy of skin biopsy.¹³⁴ Pseudo eccrine chromhidrosis is production of colorless sweat that becomes colored when it reaches the skin and combines with other agents such as chromogenic bacterial products, chemicals, paints or dyes.⁵ ² True eccrine chromhidrosis is a very rare condition occurring through eccrine excretion of water soluble agents like dyes and drugs.² It is not associated with systemic disorders. Incidence is unknown and there is paucity of reports on the etiology of eccrine chromhidrosis in the literature.

Dulcolax [bisacodyl] is a drug coated with tartrazine used as a purgative.³ This drug was the cause for the yellow staining of the under garment in this patient with eccrine chromhidrosis. Tartrazine is a lemon yellow synthetic azo dye prepared in the form of pyrazole trisodium salts which are highly water soluble. It is metabolized in the presence of gut microflora into two metabolites sulphanilic acid and aminopyrazolone which gets absorbed from gastro intestinal tract and excreted in urine. Small amount of unchanged tartrazine get excreted in urine and bile.⁸ The defining property for a dye to excrete via eccrine gland is its water solubility.⁹ Based on the water soluble nature of tartrazine and correlation through trial works and diagnostic confirmation with high performance liquid chromatography, it is concluded that tartrazine is the cause of true eccrine chromhidrosis in this patient. As far as ascertained we could not trace any report on true eccrine chromhidrosis due to tartrazine coated bisacodyl in the literature. More over there was no literature showing evidence of excretion of tartrazine through the eccrine sweat. To conclude, a case of true eccrine chromhidrosis due to tartrazine coated bisacodyl, most commonly used purgative, is reported for the first time in the literature and emphasis is made for observing similar cases since majority of the coloured drugs available in the market are coated with tartrazine.

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