Content available at: https://www.ipinnovative.com/open-access-journals

IP Indian Journal of Clinical and Experimental Dermatology

Journal homepage: www.ijced.org/

Case Report

Ephydrosis tincta - "Think Pink, but don't wear it" – An interesting case report

Rajesh Rajagopalan[1,*]

[1] *Dept. of Dermatology, Government Erode Medical College Hospital, Perundurai, Tamil Nadu, India*

ARTICLE INFO

Article history:
Received 13-08-2023
Accepted 06-09-2023
Available online 17-10-2023

Keywords:
Chromhidrosis
Eccrine sweat gland disorder
Spectrophotometry
Chromogenic bacteria
Antibiotics

ABSTRACT

Chromhidrosis or ephydrosis tincta is a rare sweat gland disorder with a characteristic presentation of the secretion of colored sweat, first reported by Yonge in 1709. This condition can be subdivided into apocrine chromhidrosis, eccrine chromhidrosis and pseudo-eccrine chromhidrosis. Treatment depends on type and cause. Pseudochromhidrosis is the change of color of normal eccrine sweat on the skin by surface compounds, molecules or chromogenic bacteria. Here we report a case of pink coloured sweat and marked staining of clothes and under garments in a previously asymptomatic young male soft wear engineer without any underlying co morbidities that affected his quality of life. He responded well to oral antibiotics. Though unharmful, it lead to social embarrassment and psychological issues.

1. Introduction

Chromhidrosis or ephydrosis tincta 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] Pseudo eccrine chromhidrosis is production of colorless sweat that becomes colored when it reaches the skin and reacts with agents such as chromogenic bacterial products, chemicals, paints or dyes. Infectious pseudochromhidrosis is a rare cutaneous disorder, characterized by a colour change of the sweat from normal appearing skin, caused by pigments from microorganisms. Such pigments are a result of evolutionary competition among microorganisms, which appears to be a decisive factor in their survival, pathogenicity and virulence. Four bacteria are known to be involved in infectious pseudochromhidrosis namely Bacillus spp. (blue colour), Corynebacterium spp. (brown/black colour), Serratia marcescens (red/pink colour) and Pseudomonas aeruginosa (blue-green colour). Infectious pseudochromhidrosis seems to be triggered by certain drugs like topiramate and conditions causing physiological alterations or changes in epidermal micro flora. The condition can be treated by addressing triggers and therapy with antibiotics / antiseptics. We report here a case of pink infectious pseudochromhidrosis in the truncal skin caused most probably by pigment-producing serratia marcescens which is also implicated in rose sputum (pseudohemoptysis). Serratia marcescens is an opportunistic, gram negative, nosocomial pathogen which belongs to family, Enterobacteriaceae.[3] The exact incidence of chromhidrosis in other body areas is unknown because of limited documented literature. Chromhidrosis is not linked to systemic illnesses but has been associated with personal inconvenience and psycho social embarrassment. In this report, we present a young man chromhidrosis producing pink eccrine sweat and pink colouring of the skin and garments.

* *Corresponding author*.
E-mail address: rajeshderma@gmail.com (R. Rajagopalan).

https://doi.org/10.18231/j.ijced.2023.029

2. Case Report

A 26 year old soft wear engineer by profession presented to the OPD with complaints of pink discolouration of sweat and clothes for more than 1 year on and off. Discoloration was noticed on the back of the trunk more after hitting the gym [strenuous exercises]. He was unable to destain the garments with bleaching agents or regular washing with detergents. Diet did not contain colored vegetables or fruits. He was not on any supplementary foods or drugs. No h/o using of deodorants, dyed clothings, chemicals, food colorants, additives etc. No other systemic or psychiatric ailments. General and systemic examinations were within normal limits. Examination of the back of the trunk revealed back acne, pink sweat droplets and diffuse multiple patches of pinkish stain on his vest and shirt [Figure 1, 2]. On dermatological examination, skin appeared normal except for truncal acne. Examination after 15 minutes of exercise and using a new inner vest revealed increased perspiration cum staining more over the back. We noticed few sweat droplets over back [Figure 3]. Blotting sweat with tissue paper showed pink stain. All routine laboratory work, gram stain, culture of skin scrapings, and punch biopsy from affected skin were normal. Woods lamp examination did not reveal any fluorescence on the affected skin and clothes. The differential diagnosis for sweat pigmentation includes hyperbilirubinemia, hematohidrosis, alkaptonuria, copper exposure, Addison disease, and hemochromatosis. A differential diagnosis of apocrine, eccrine and pseudoeccrine chromhidrosis, dermatitis artefacta (simulata) were considered. Patient was subjected to detailed clinical examination and laboratory tests. A therapeutic trial of antibiotics (Tab. Erythromycin stearate 2 grams daily in divided doses) was given for 10 days.[4,5] He was advised to improve personal hygiene in home, gym and workplace. He was observed weekly for 3 months now. On reviewing the patient, antibiotics improved his symptoms and signs thereby confirming pseudoeccrine chromhidrosis. Patient is being regularly followed up for recurrence of the disease.

Based on history, clinical evaluation, lab works, and therapeutic trial of oral macrolide antibiotics, a provisional diagnosis of pseudo eccrine chromhidrosis was made. For further confirmation, photometric and chromatographic analysis of the sample (sweat) collected by extraction from stained cloth was done. Mass Spectrometry (MS) analysis and High performance liquid chromatography (HPLC) did not reveal drug, dye or chemical in the analyzed specimen. A final diagnosis of pseudoeccrine chromhidrosis most probably due to chromogenic bacteria was made as he responded well to the drug. Fungi, including Malassezia furfur, dyes, paints, and chemical agents such as dihydroxyacetone have also been implicated in pink sweat. As far as literature search done, we could not trace several published reports on pink pseudoeccrine chromhidrosis though the condition is not common.[6–9]

3. Conclusion

To conclude, pink pseudoeccrine chromhidrosis is due to colonization of eccrine sweat by chromogenic bacteria. Antibiotics, avoidance of triggering agents like colored foods, synthetic clothings etc. along with proper personal hygiene will improve this innocuous condition. Systemic associations should be ruled out in any skin and sweat pigmentation.

Fig. 1: a,b: Patient's clothing stained pink

Fig. 2: Truncal acne /Appearance of colored sweat on back after 102 10 minutes exercise.

4. Declaration of Patient Consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

5. Source of Funding

None.

6. Conflicts of Interest

There are no conflicts of interest

References

1. Shelley WB, Hurley HJ. Localized chromhidrosis: A survey. *AMA Arch Derm Syphilol*. 1954;69(4):449–71.
2. Cilliers J, De Beer C. The case of the red lingerie - chromhidrosis revisited. *Dermatol*. 1999;199(2):149–52.
3. Khanna A, Khanna M, Aggarwal A. Serratia Marcescens- A Rare Opportunistic Nosocomial Pathogen and Measures to Limit its Spread in Hospitalized Patients. *J Clin Diagn Res*. 2012;7(2):243–6.
4. Thami GP, Kanwar AJ. Red facial pseudochromhidrosis. *Br J Dermatol*. 2000;142(6):1219–20.
5. Anğ-Küçüker M, Büyükbaba-Boral O, Tolun V, Törümküney D, Susever S, Anğ O, et al. Effect of some antibiotics on pigmentation in Serratia marcescens. *Zentralbl Bakteriol*. 2000;289(8):781–5.
6. Nair PA, Kota RK, Surti NK, Diwan NG, Gandhi SS. Yellow pseudochromhidrosis in a young female. *Indian Dermatol Online J*. 2017;8(1):42–4.
7. Erdol S, Karakaya S, Saglam H, Tarim O. Chromhidrosis due to exogenous oxidizing heavy metals: Clinical and laboratory findings. *Pediatr Dermatol*. 2018;35(4):448–52.
8. Balasubramanian S, Amperayani S, Dhanalakshmi K, Kumar R. Chromhidrosis–colored sweat in a toddler. *Indian Pediatr*. 2015;52(4):337–8.
9. Ingvaldsen CA, Leegaard TM, Kravdal G, Mørk C. Infectious Pseudochromhidrosis: A Case Report and Literature Review. *Acta Derm Venereol*. 2020;100(1):adv00005. doi:10.2340/00015555-3338.

Author biography

Rajesh Rajagopalan, Professor and HOD

Cite this article: Rajagopalan R. Ephydrosis tincta - "Think Pink, but don't wear it" – An interesting case report. *IP Indian J Clin Exp Dermatol* 2023;9(3):157-159.