Picture story

An unusual case of arthropod dermatosis: A disorder of Cydnidae pigmentation (the burrowing bug)

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Introduction

Arthropods can cause several cutaneous conditions ranging in severity from a few mm sized asymptomatic, barely noticeable lesions to life threatening conditions[1].

Case report

A 2-year-and-6-month-old girl presented with complaints of sudden onset asymptomatic dark patchy lesions over both soles since previous evening. They were reddish brown macules, a few mm in diameter, non-itchy, varied in shape and present on bilateral soles (Figure 1).

No similar lesions were present elsewhere in the body. The lesions were non blanchable and without any signs of inflammation. Activated partial thromboplastin time, prothrombin time and international normalised ratio were within normal limits. On detailed history, mother revealed visiting a nearby temple barefoot the previous evening. Examination of the mother revealed similar lesions on both soles. Dermoscopy revealed a cluster of lesions of varied shape shaped brown and shiny globules with superficial 'Stuck-On' appearance.

Based on clinical and epidemiological evidence and on conclusions drawn from our history and dermoscopic investigation, we concluded that the most plausible diagnosis was Cydnidae pigmentation by Burrowing bug.

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Discussion

Burrowing bugs (*Chilocoris assmuthi*) are soil diggers belonging to the order "Hemiptera" (Figure 2). The natural habitat of these burrowing bugs is soil and sand. However, they are also found in vegetation rich areas and adjoining human dwellings[1,2]. They dig deeper to feed on the underground parts of plants and commonly breed during the rainy season[1,2]. The bug produces pigmentation which is due to the hydrocarbonate containing brownish substances released from special glands found in the thorax in adults and in the lateral part of the abdomen in nymphs and not due to its bite[3,4]. The substance produced by the bug acts as a repellent, chemoattractant, attraction of mates, to paralyse preys, as a danger signal and also has antimicrobial activity[5-8].

In our case, child presented with a few mm sized oval to bizarre shaped pigmented macules on bilateral soles with streaky and tapering edges that developed within a few minutes of contact. The colour of the lesions was darkening with time, and could not be rubbed off with soap and water. Dermoscopy of the lesion revealed a cluster of oval-to-bizarre shaped brown and shiny globules with superficial 'Stuck -On' appearance[5] (Figure 3). This feature differentiates the Cydnidae pigmentation from other exogenous causes of pigmentation.

Differential diagnoses considered were lentigines, acral melanoma, junctional melanocytic naevi and petechiae. The pointers that helped in our diagnosis were the sudden onset of pigmentation, the asymptomatic nature, history of outdoor activity, occurrence in rainy season, involvement of the exposed area, numerous oval bizarre and streaky configuration of macules, removal with acetone swab, superficial 'Stuck-On' appearance on dermoscopy and evidence from clinical and epidemiological literature of similar case reports. An attempt of rubbing the lesion with a swab of acetone was made and was successful and that re-confirmed our diagnosis. As the condition is usually self-limiting, strong reassurance was given of the benign nature of this problem.

Figure 1: ***Oval to bizarre shaped lesions only on bilateral soles***

Figure 2: ***Burrowing bug***

Figure 3: ***Dermoscopy appearance***

References

1. Malhotra AK, Lis JA, Ramam M. Cydnidae (burrowing bug) pigmentation: a novel arthropod dermatosis. *JAMA Dermatology* 2015; **151**(2): 232-3. https://doi.org/10.1001/jamadermatol.2014.2715 PMid: 25353259

2. Elwan NM, Eltatawy RA, Elfar NN, Elsakka OM. Dermoscopic features of acral pigmented lesions in Egyptian patients: a descriptive study. *International Journal of Dermatology* 2016; **55**(2): 187-92. https://doi.org/10.1111/ijd.12882 PMid: 26341359

3. Sonthalia S. Dermoscopy of Cydnidae pigmentation: a novel disorder of pigmentation. *Dermatology Practical and Conceptua*l 2019; **9**(3): 228. https://doi.org/10.5826/dpc.0903a15 PMid: 31384503 PMCid: PMC6659609

4. Chakraborty S, Sil A, Panigrahi A. Burrowing bug pigmentation. *Infection* 2021; **49**(6): 1363-4. https://doi.org/10.1007/s15010-020-01481-w PMid: 32654020

5. Kumar BS, Savitha AS. Cydnidae pigmentation− dermoscopic features. *Pigment International* 2021; **8**(2): 115. https://doi.org/10.4103/pigmentinternational.pigmentinternational_2_21

6. Sharathkumar BC, Radhika SR. A tale of a burrowing bug and Cydnidae pigmentation: A case report. *Dermatology Online* 2020: **11**(Suppl. 3): 24-26. https://doi.org/10.7241/ourd.2020S3.8

7. Bhanja DB, Sil A, Chandra A, Chakraborty U. Atypical presentation of burrowing bug pigmentation involving a non-acral site. *BMJ Case Reports* 2021; **14**(2): e241792 https://doi.org/10.1136/bcr-2021-241792 PMid: 33568417 PMCid: PMC7878129

8. Selim MK, Ahmed ES, Abdelgawad MM, El-Kamel MF. Progressive macular hypomelanosis among Egyptian patients: a clinicopathological study. *Dermatology Practical and Conceptual* 2011; **1**(1): 5 https://doi.org/10.5826/dpc.0101a03 PMid: 24396712 PMCid: PMC3881075