An Unusual Presentation Of Erythema Ab Igne And The Role Of Occupational History In Unveiling It - A Case Report

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Abstract: Erythema ab igne is a characteristic reticular telangiectatic and pigmented dermatosis, resulting from repeated or prolonged exposure to heat or infrared radiation insufficient to cause burns. Occupational history has played a pivotal role in dermatological diagnosis, and its importance cannot be overstated. It could lead to the provisional or final diagnosis in many instances. Over the course of time, the site and cause of erythema ab igne has evolved. From commonly being found on knees shins and palms due to tapnas (a practice in Indian villages to sit in front of fire); the disease is now observed on other sites such as on thighs and trunk after the discovery of heating pads and laptops. In this particular case, a 26-year-old male presented with erythematous to light brown patches on his right arm. The site of presentation was quite unusual, thus making occupational history the key to diagnosis. [Shah A Natl J Integr Res Med, 2021; 12(5): 80-82]

Key Words: Toasted Skin, Cooking Pattern, Infrared, Chinese Wok Chef, Reticulate Pattern

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Introduction: Erythema Ab Igne (EAI) also known as toasted skin syndrome, ephelis ab igne, ephelis ignealis or erythema a calore, is a characteristic reticular telangiectatic and pigmented dermatosis, resulting from repeated or prolonged exposure to heat or infrared radiation insufficient to cause burns[1].The presentation of EAI has had its own journey, and has shown modifications with changing lifestyles, coming of new technologies like laptops and novel heat exposure mediums like heating pads[2,3,4].

Occupational history has played a pivotal role in dermatological diagnosis, and its importance should not be forgotten. Numerous studies have strengthened the notion that various environmental exposures could make people more susceptible to certain dermatological disorders[2,3,4,5]. A crisp but detailed history often leads to a provisional or final diagnosis, thus guiding adequate management of the patient.

We present this case with the intent to bring to attention an unusual site and a new route of exposure to EAI.

Case Report: A 26-year-old male presented with the complaint of asymptomatic patchy reddish-brown skin lesions over his right forearm for six months, which were spreading with time. No history of constitutional symptoms or any other significant positive history was noted. On cutaneous examination the patient was Fitzpatrick skin type 4: his skin color being moderately brown, he always tanned and minimally burned after sun exposure. Non-blanchable erythematous to light brown patches in reticulate pattern, localized to the medial aspect of his right forearm, were observed. (Figure 1) The lesions were present unilaterally sparing the left arm completely.

Figure 1: 26-Year-Male Showing Erythematous To Light Brown Patches In Reticulate Pattern On Medial Aspect Of Right Arm

Differentials like Livedo Reticularis (LR), Livedo Racemosa, and Cutis Marmorata were considered and ruled out. The lack of history of exposure to cold helped rule out Livedo Reticularis. The

pattern of Livedo Racemosa is distinctive from EAI hence it was excluded. As Cutis Marmorata is more common in the paediatric age group, it was excluded too. On moving back and elaborating the history regarding exposure/occupation, it was discovered that the patient was a right-handed Chinese wok chef. His daily heat exposure at work was approximately 6-8 hours. The classical reticular pattern, site of involvement localized unilaterally to dominant hand and most importantly the occupational history of this patient helped us reach the diagnosis of EAI.

The patient was educated regarding the effect of constant exposure to heat associated with his occupation. Multi layered clothes were advised to decrease the effect of prolonged heat exposure. Patient was treated with Vitamin C supplements along with mild topical steroids and calamine lotion.

Discussion: EAI initially presents as blanchable erythema due to vasodilation. It soon progresses to a reticulated pigment pattern due to hemosiderin deposition[1]. Cutaneous hyperthermia is observed in the range of 43-47 degree Celsius of heat exposure[6]. With the change in time, the site and cause of EAI has evolved too. From being more common on knees, shins and palms due to tapnas,to being on abdomen and trunk after the discovery of heating pads[3,7]. With transforming civilizations cooking methods have altered enormously, chullahs (earthen oven with wood burning fire) have become pots and woks[6] (Figure 2).

Figure 2: Showing A Picture Of A 'Chullah' And A 'Wok' Emphasising On The Change In Cooking Styles With Time (Courtesy: Google Images)

Ironically people using heat as a source of solace for harsh winters are very prone to EAI from the constant heat, like the Kangri users in Kashmir[8]. With the dawn of the era of technology, a lot of cases with laptop induced EAI have come forth[1,2,9]. Long standing cases of EAI can lead to malignancies like Squamous cell carcinoma and Merkel cell carcinoma, making its diagnosis all the more important[3,4,8].

Occupational history, work and home environment has always been of importance in dermatology like- farmers being prone to Photo dermatitis, Contact Dermatitis and Air-Borne Contact Dermatitis, Chemical factory workers being prone to Irritant Contact Dermatitis, Sex workers being prone to Sexually Transmitted Disorders, Housewives/ House help being more prone to Erosio Interdigitalis Blastomycetica and Tinea Pedis, so on and so forth[5]. The most recent being health care workers susceptible to irritant and allergic contact dermatitis due to PPE kits[10].

In this particular case, a new trend was observed where a Chinese wok chef, an occupation which was uncommon in India a few years ago, suffered from EAI. Along with the humongous size of the cooking vessel, the need of constant stirring with dominant right hand also adds to the heat exposure. With this style of cooking, now being popular in Indian street food culture, it can potentially be a new subgroup prone to EAI. History taking is a very simple but rewarding art.

As dermatology is a visual branch involving spot diagnosis, at times history taking might be neglected. In uncommon presentations, history taking becomes crucial. Only a few questions about a person's working and/or home environment can guide us towards our final diagnosis without the need of invasive and/or exorbitant investigations, as seen here[1,5,6,7]. The prognosis of EAI is favorable if the culprit source is removed. The causative factor can only be discovered when thorough and targeted history

is taken. The unusual site in this case makes the diagnosis tricky. Whereas a routine practice of taking occupational history led to the final diagnosis.

Conclusion: EAI has been a known condition since yester years. The predisposing factors and site of predilection are evolving with changing times. In such a scenario history taking plays a pivotal role, even for a visual condition like EAI.

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