Commentary

Understanding macular pigmentation of uncertain aetiology

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This commentary is about the preceding article on idiopathic eruptive macular pigmentation with papillomatosis by Joshi and Rohatgi.[1]

Idiopathic eruptive macular pigmentation is an acquired macular hyperpigmentation with relatively small macules.[2-5] Some consider this to be a variant of ashy dermatosis.[6] Major characteristics of idiopathic eruptive macular pigmentation are the predominant changes in the epidermis, more brownish discoloration, predominance in children and adolescents and the spontaneous resolution of the lesions with time. Melanophages are also found in the dermis in many cases. Sanz de Galdeano specified the criteria for diagnosis of idiopathic eruptive macular pigmentation.[3]

It is very important to approach macular pigmentation of uncertain etiology in a rational way. One should not unnecessarily formulate new terminologies for conditions that might be variants of the same entity. Similarly, one should also avoid categorizing a condition with a known entity without convincing evidence. If, in doubt, it is rather better to have a term such as "macular pigmentation of uncertain etiology" until the condition is correctly diagnosed. There is no doubt that the condition termed "idiopathic eruptive macular pigmentation with papillomatosis" which was first described by Joshi is a distinct form of acquired macules and plaques of pigmentation which resolves spontaneously in the course of time.[4] There is some merit to categorize this entity under idiopathic eruptive macular pigmentation because of similarities such as onset in childhood, distribution of lesions, complete resolution and both having predominantly epidermal hypermelanosis. However, the term idiopathic eruptive macular pigmentation with papillomatosis (with velvety thickening clinically) is a misnomer as it contradicts the word "macular." One can also argue that idiopathic eruptive macular pigmentation with papillomatosis where one sees velvety thickening clinically and epidermal papillomatosis histopathologically is a variant of acanthosis nigricans or confluent and reticulated papillomatosis. In spite of this, idiopathic eruptive macular pigmentation with papillomatosis has been reported in the medical literature, so the term will remain until it is further characterized and the etiology is found.

Joshi and Rohatgi have reviewed the articles on this subject published in English on PubMed.[1] A problem arises when analyzing previous cases where the photographs and histopathology descriptions are not exactly comparable. Joshi and Rohatgi suggest that all the cases of idiopathic eruptive macular pigmentation described in the literature where there are dermal melanophages should be reclassified as having ashy dermatosis, lichen planus pigmentosus or Reihl's melanosis. According to several other authors, dermal melanophages are found in patients with idiopathic eruptive macular pigmentation.[2,3,5,6] In cases where melanophages were seen, it is important to consider whether the epidermis also showed increased pigmentation or

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not. The mere presence of dermal melanophages is not sufficient argument to say that these were wrongly classified. In fact, many cases of epidermal melanosis have melanophages in the dermis. For example in melasma, which is primarily an epidermal melanosis, dermal melanophages are often seen.[7] Furthermore, in dark skinned persons, there can be a few scattered melanophages in the dermis even without any significant disease.[8] In addition, it is not uncommon to see melanophages in the dermis below a pigmented seborrhoeic keratosis. The exact mechanism for this is unclear, but it may be due to excessive production of melanin leading to pigment incontinence rather than due to interface dermatitis. The words "significant" and "a few melanophages" are subjective.[1] For instance in a report of two cases of idiopathic eruptive macular pigmentation with papillomatosis, cited by Joshi and Rohatgi[1] it is clearly evident from from the photomicrographs that there are several melanophages in the dermis.[9] In the text also, Grover *et al*. have described the presence of dermal melanophages.[9] In spite of this, these two cases have been classified under idiopathic eruptive macular pigmentation with papillomatosis "without dermal melanophages" (cases 11 and 12 in Table 1).[1] One has also to evaluate if dermal melanosis is associated with epidermal hypermelanosis. This could be difficult particularly in cases of macular type of idiopathic eruptive macular pigmentation without control skin for comparison.

Another aspect that needs to be addressed is that in all the cases described as idiopathic eruptive macular pigmentation the condition disappears within a few months to a few years, whereas in the other acquired hyperpigmentary conditions such as ashy dermatosis lesions do not resolve for many years.

Joshi and Rohatgi suggest that the definition of idiopathic eruptive macular pigmentation should include papillomatosis as a characteristic. Furthermore, they stress that dermal melanophages should weigh against a diagnosis of idiopathic eruptive macular pigmentation whereas Sanz de Galdeano *et al*. in their original description specifically mention the presence of melanophages in the dermis.[3] It appears there are 2 different entities, the condition described by Joshi has the characteristics of pigmented, patchy, velvety thickening of the skin with papillomatosis histopathologically, while the condition described by Sanz de Galdeano *et al*. has transient small hyperpigmented macules occurring predominantly in children and adolescents. The latter has also been reported by others around the world using the same diagnostic criteria.

Many types of skin disease can cause transient, small macules of hyperpigmentation of the skin in dark skinned races. These include lichen planus, drug eruptions, pityriasis rosea, secondary syphilis, endogenous eczema, viral exanthema, graft versus host disease and cutaneous mastocytosis. In typical cases of lichen planus pigmentosus, ashy dermatosis and erythema dyschromicum perstans, the lesions are larger and more persistent. Slowly progressing drug induced hyperpigmentations can often be overlooked unless a careful history is taken.[10]

Further studies on possible etiology of this condition would be welcome. On a related note, a global consensus is needed on the terminology of macular pigmentation of uncertain etiology, particularly for the terms ashy dermatosis, lichen planus pigmentosus, Riehl's melanosis, idiopathic eruptive macular pigmentation and idiopathic eruptive macular pigmentation with papillomatosis. The consensus meetings held at the International Congress of Pigment Cell Research in Singapore in 2014 and the World Congress of Dermatology in 2015 in Canada have made some progress in this direction.

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Conflicts of interest
I am co-convener of the Ashy Dermatosis/Lichen Planus Pigmentosus/Erythema Dyschromicum Perstans Global Forum.

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See also Joshi RS, Rohatgi S. Idiopathic eruptive macular pigmentation: A critical review of published literature and suggestions for revision of criteria for diagnosis, on page 576 of this issue.