Imatinib-induced Melasma-like Pigmentation

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Sir,

Imatinib mesylate is a tyrosine kinase-targeting anticancer drug. Hypopigmentation is a commonly reported side effect of this drug while hyperpigmentation has rarely been reported. We describe a case of the gastric gastrointestinal stromal tumor (GIST) who was receiving imatinib mesylate in the dose of 400 mg daily and after 2 months developed melasma-like pigmentation over the convexities of the face. A 36-year-old shopkeeper who was a known case of gastrointestinal stromal tumor of stomach presented to us with facial pigmentation. He was on imatinib mesylate (400 mg once daily) for last three years after surgical resection of the tumor. After two months of initiation of imatinib therapy he noticed dark brown pigmentation over the face which was gradually progressive. On examination, he had symmetric involvement of photoexposed parts of the face (forehead, dorsum of the nose, malar area, and supralabial area) in the form of reticulate dark brown pigmentation [Figure 1]. Oral mucosa, nails, palms, and soles were unremarkable. On dermoscopy, there was irregular dark brown pigment network in a pseudoreticular pattern along with hypopigmented areas and few areas of increased erythema [Figure 2]. He had not taken any specific treatment for his pigmentation. Based on classical history, clinical and dermoscopic features, a diagnosis of imatinib-induced melasma-like pigmentation was made and the patient was started on sunscreen and topical depigmenting agents.

Imatinib is a tyrosine kinase inhibitor anti-cancer drug. Common cutaneous adverse effects include xerosis, photosensitivity, angular cheilitis, psoriasiform rash, and pigmentary changes. Rarely, it can cause painful oral erosions, acute generalized exanthematous pustulosis, urticarial, and lichenoid reactions. Pigmentation associated with imatinib has been described in skin, palatal mucosa, nails, teeth, hair, and gum. Hypopigmentation is the most commonly reported pigmentary change and it is attributable to inhibition of melanogenesis due to inhibition of the binding of ligands to c-kit receptors. It can present as generalized skin-lightening, vitiligo-like lesions, and hair graying. There are fewer reports of imatinib-induced hyperpigmentation in literature and mechanism behind this adverse effect remains elusive. Different hypotheses include the formation of a drug-melanin metabolite, drug-induced cytotoxic response to epidermal “neo antigen” and the presence of a specific KIT mutation and its interaction with other receptors. In one series, imatinib-induced depigmentation (localized or generalized) was seen in 40.9% of cases and hyperpigmentation in 3.6% of cases. Pigmentary changes started developing 4 weeks (median time) after commencement of therapy and were mostly localized at the onset and gradually became diffuse over next few weeks. Ghunawat et al. described five cases of imatinib-induced facial pigmentation which was morphologically identical to melasma and developed over an average period of 3 months of taking 400 mg daily dose of imatinib. Of these, four patients had GIST, whereas one had chronic myeloid leukemia. One of the patients also developed similar pigmentation on the forearm in addition to facial hyperpigmentation.

Figure 1: Reticulate dark brown melasma-like pigmentation

Figure 2: Dermoscopy (Heine Delta T20, polarized) showing irregular dark brown pigment network in a pseudoreticular pattern along with hypopigmented areas and few areas of increased erythema.
**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.

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**Conflicts of interest**

There are no conflicts of interest.

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