CASE REPORT

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Multiple Melanonychia During Hydroxyurea Therapy

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ABSTRACT

Hydroxyurea (HU) is an antimetabolite agent. It is commonly used in the treatment of various hematologic disorders. I described a case of multiple melanonychia during HU therapy.

Keywords: Hydroxyurea, Primary thrombocytosis, Melanonychia

Introduction

Melanonychia was described with many drugs, especially chemotherapeutic agents. We described a case of multiple melanonychia during hydroxyurea (HU) therapy for essential thrombocythemia.

Case Report

A 60-year-old female had primary thrombocytosis treated with HU for 10 months 3 tab/day. she presented with nail hyperpigmentation began after 4 months of treatment with HU. Physical exam revealed longitudinal melanonychia, diffuse melanonychia in all 10 toe nails, and in 4 finger nails (Figure 1-4). Written informed consent was obtained from the patient.

Discussion

HU is an anti-neoplastic, it decreases the production of deoxyribonucleotides by inhibition of the enzyme ribonucleotide reductase. The drug usually used in the treatment of various hematologic disorders, e.g., chronic myelogenous leukemia, polycythemia vera, sickle cell anemia and occasionally, at lower doses, for severe psoriasis vulgaris [1]. It is usually a well-tolerated.

HU have systemic and cutaneous side effects. Cutaneous side effects occur in 10% to 35% of patients receiving chronic HU therapy [2]. They include: stomatitis, alopecia, facial erythema, hyperpigmentation, actinic keratosis lesions, and multiple skin carcinomas they recently known as HU-associated non-

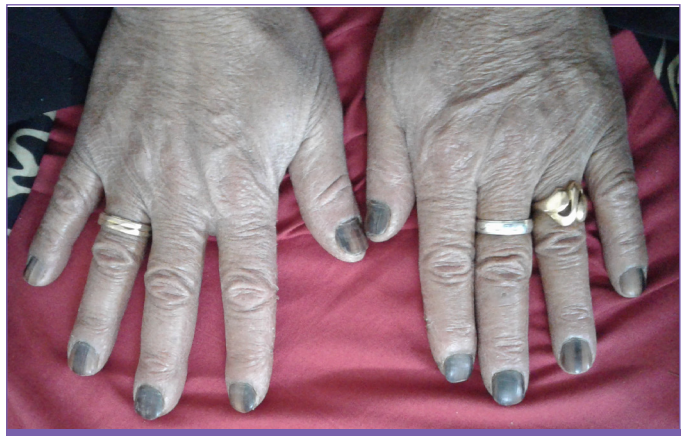

Figure 1. Diffuse melanonychia in all 10 toe nails

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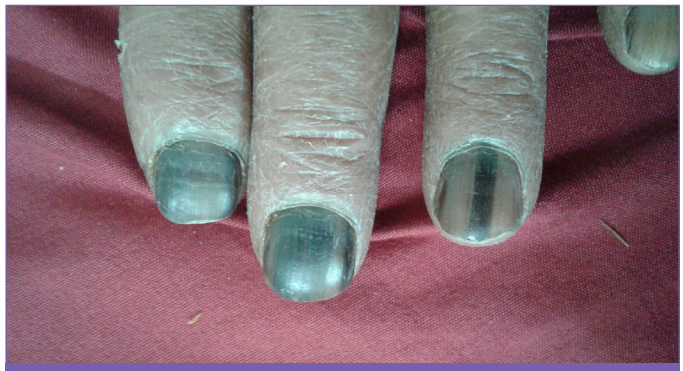

Figure 2. Diffuse and longitudinal melanonychia (close up)

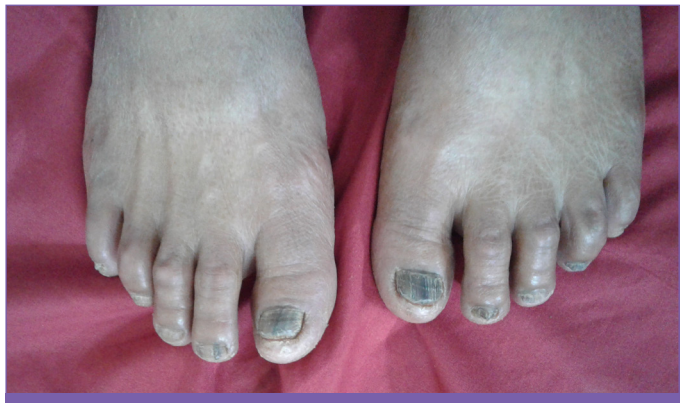

Figure 3. Melanonychia in in 4 finger nails

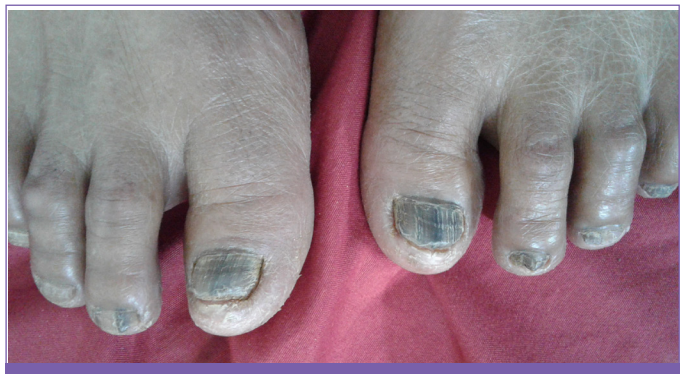

Figure 4. Melanonychia in 4 finger nails (close up)

melanoma skin cancers, or the recently described HU-associated squamous dysplasia may develop [2]. Daoud et al. [3] added a new unique under name "HU dermopathy". It included: Lichenoid papules, telangiectasia, and poikilodermatous lesions on the dorsal hands and digits [3].

Others side effect are ichthyosis, acral erythema, palmoplantar keratoderma, leukocytoclastic vasculitis, and leg ulcers. More rarely, a dermatomyositis-like eruption, melanonychia aggressive melanonychia are an uncommon side effect of HU.

Melanonychia is diffuse or longitudinal hyperpigmentation of the nail. It may be develop in one nail or be aggressive in multiple nail. It develops in about 4.3% of the patients receiving HU therapy [4] The onset of the melanonychia varies from 4 weeks to 5 years after initiation of the HU [5]. In our patient it began after 4 months of theray.

The pathogenesis of melanoychia is not clear [4]. The number of melanocytes in the skin and nail are fixed but their activity is variable. HU causes melanocytes so it increased melanin pigmentation of the nail matrix epithelium and nail plate without an icrease in the number of melanocytes [6]. Although dercreasing the dose or discontinuing the use of hydroxycarbamide could eliminante with time [6]. Murray et al. [7] described melanonychia associated with the use of hydroxycarbamide for essential thrombocythemia in Chilean patient. Of a patient population of 27.7 (26%) developed melanonychia over a period of 2-7 years, and was not dose dependent [7].

Our patient resembles Chilean patients. She lives in a rural area and has skin type IV according Fitzpatrick scale, and Syria also has a high levels of ultraviolet (UV) radiation. The high UV radiation levels may also explain why the melanonychia was more common in the hands than in the feet.

Melanonychia is side effect of HU therapy especially in sunny area, and we always must be exclude subunguale melanoma. Sometimes biopsy is necessary especially in longitudinal melanonychia of a single nail unit melanonychia is side effect of HU therapy especially in sunny area, and we always must be exclude subungual malignant melanoma. Sometime biopsy is necessary.

Ethics

Informed Consent: Written informed consent was obtained from the patient.

Peer-review: Internally peer-reviewed.

Conflict of Interest: No conflict of interest was declared by the authors.

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