

Case report

Carcinoma skin in association with Chronic Myeloid Leukemia; a case report

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Abstract:

Hydroxyurea (HU) is a cytostatic agent used to treat myeloproliferative disorders including chronic myeloid leukemia (CML), the long term use of which has been seen to be associated with multiple skin disorders. The purpose of this study was to report concomitant occurrence of multiple skin carcinomas in patients on HU & consider an alternative chemotherapeutic agent for myeloproliferative disorders.

Key words: cml ; hydroxy-urea; skin cancer

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Introduction:

HU has been drug of choice for various myeloproliferative disorders, the prolonged use of which has been seen to have various adverse effects like skin atrophy, xerosis, hyperpigmentation (melanonychia) & dermatomyositis.¹ Historically, these observations prompted the use of HU in the treatment of various skin disorders like psoriasis as reported by Kennedy and co workers as early as 1975.² In our study we report this patient who has received HU for CML for more than two years and developed multiple skin lesions.

Case report: We report the case of a 55 year old male, who was diagnosed as a case of CML under treatment in department of oncology at our institute. Patient was diagnosed two years back & was receiving HU as he had financial constraints for *Imatinib*. Patient had no history of diabetes or any significant history pertinent to any skin disease. Patient developed itching & erythematous lesions over the dorsum of his hands & legs almost 6 months after treatment with HU. On examination patient had multiple hyperkeratotic lesions over the legs, dorsum of hands, forehead & arms (Fig 1). He did not improve with topical applications or antibiotics. The erythematous lesions later crusted & lichenified over a period of two months.



Fig 1. Hyperkeratotic Leg Lesions.

Chemotherapy was interrupted in between when the hyperkeratotic lesions increased in size & started to bleed. Patient was advised plastic surgery consultation where excision biopsy of one of the leg lesions was done. Histopathological examination revealed features of squamous cell carcinoma (Fig 2).

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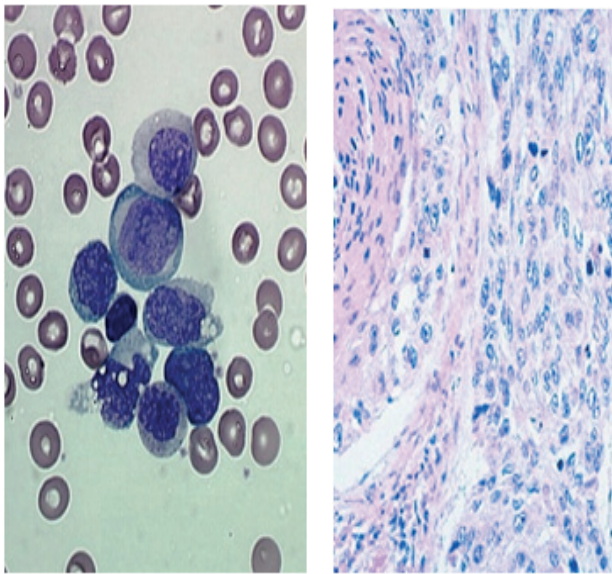


Fig 2. Microscopic Appearance of CML and Squamous Cell Carcinoma Skin.

Patient was advised radiotherapy with electrons but couldn't afford the same. He was planned & treated with external beam radiotherapy with megavoltage photons.

Discussion:

Hydroxyurea (HU) is a cytoreductive agent commonly used in the treatment of chronic myeloproliferative disorders. Though, usually well tolerated, prolonged use of HU has been seen to be associated with muco-cutaneous side effects, such as alopecia, diffuse hyper pigmentation, erythema, skin atrophy, and nail changes in over one fourth of these patients.³ Ironically, many a times these patients need to discontinue their treatment for resolution of the symptoms,⁴⁻⁶ and in majority, discontinuation of the medicine results in complete or almost complete healing⁷. Successful treatment of HU-related leg ulcers with topical granulocyte-macrophage colony-stimulating factor (GM-CSF) in few patients affected by chronic myeloid leukemia (CML), have also been reported⁸.

Cutaneous changes with long term HU therapy was reported by Oskay T et al⁹. They reported a 69 year-old-male with polycythemia vera who developed a dermatomyositis-like eruption on his face and dorsum

of the hands following long-term HU therapy. Despite the cutaneous features, there were no clinical signs of muscular involvement, and muscle specific enzymes were within normal ranges. After interruption of HU administration, the skin lesions disappeared within two months. The improvement following withdrawal of HU implicated this drug as a possible etiological factor in the development of cutaneous features of dermatomyositis.

G Baskaynak et al reported two cases of squamous cell carcinoma of the skin, which appeared in the *photo-exposed* areas in two elderly patients treated for advanced chronic myeloid leukemia with imatinib. The role of chemotherapy, chronic sun exposure and of possible additional risk factors such as human papilloma-virus infection was also addressed¹⁰.

Vassalo et al studied a group of 510 patients affected by chronic myeloid leukaemia from 1977 to 1998. Of them 158 patients were treated with hydroxyurea. A spectrum of severe cutaneous and mucosal changes (inflammatory and neoplastic) was seen in about 13% of patients (21 patients out of 158) and was studied in detail. Cutaneous and mucosal atrophy were observed in all 21 patients. Skin atrophy was often characterized by numerous telangiectasias, especially on legs and sun-exposed sites in 16 of the 21 patients. Cutaneous, mucosal and nail hyper pigmentation was evident, albeit with variable extent, in 10 of the 21 patients. Severe *stomatitis* and *glossitis* with flattening of papillae were another common finding. Five patients, who received a particularly long treatment with hydroxyurea, developed squamous-cell neoplasms on sun-exposed sites (both squamous-cell carcinomas and keratoacanthomas). Acral changes were characteristic and constant, including acral erythema (21/21), dermatomyositis-like changes on the dorsa of hands (7/21), ulcers localized on acral areas of legs, on genitalia and oral mucosa (20/21). The frequency and the variety of these muco-cutaneous changes were reported and the mechanisms by which hydroxyurea may induce this muco-cutaneous syndrome-like group of changes were considered.¹¹

Conflict of interest: Not declared

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