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An Uncommon Oro-cutaneous Complication of Systemic 5-fluorouracil- A Case Report

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Author's contribution

The sole author designed, analyzed and interpreted and prepared the manuscript.

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Case Study

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ABSTRACT

5-fluorouracil is an antineoplastic drug mainly acts by pyrimidine antagonist and classified as an antimetabolite. There are few complications which is very rare following administration of 5FU including hyper pigmentation, radiation recall, nail discoloration, hand foot syndrome (Palmar plantar erythrodysesthesia). As per our knowledge only one case reported with concurrent of hand foot hyper pigmentation with tongue hyper pigmentation. This is a case report of hyper pigmentation of hand and foot with tongue following administration of systemic 5-fluorouracil.

Keywords: Hyper pigmentation; 5-fluorouracil (5FU); hand and foot; tongue.

1. INTRODUCTION

5-fluorouracil is an antineoplastic drug mainly acts by pyrimidine antagonist, and classified as an antimetabolite [1]. 5FU mainly used for colorectal malignancies, breast cancer, gastrointestinal malignancies, head and neck malignancies, ovarian cancer and as topical agents for cutaneous malignancies. There are numerous side effects following administration of 5FU. Most common side effects include diarrhea, nausea and vomiting, poor appetite, watery eyes and metallic taste in mouth.

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2. CASE REPORT

A 34 years old female diagnosed as carcinoma left breast and underwent left modified radical mastectomy with axillary node dissection. Post operative histopathology showed infiltrating ductal carcinoma with comedo necrosis. All resected margin free of tumor with no evidence of metastasis to lymph node. Pathological TNM staging was PT2N0M0.

Patient put on 5FU based chemotherapy regimen for 6 cycles. Patient successfully completed 3 cycles of chemotherapy. At the end of 3 cycle chemotherapy patient developed hyper pigmentation of hand and foot, oral cavity and tongue. She did not complaint of redness, Erythema, pain or dysesthesia over hyper pigmentation. There was no history of similar lesion in the past. No history of allergic to any drugs. None of her family members had similar complaint.

On examination patient had a hyper pigmentation on both hands and feet (Figs. 1 and 2). In addition to hyper pigmentation of hand and foot, there was hyper pigmentation of oral cavity, dorsal aspect of tongue and face (Fig. 3). The patient was prescribed topical emollients and the condition improved. After completion of chemotherapy all pigmentation are started to fade.

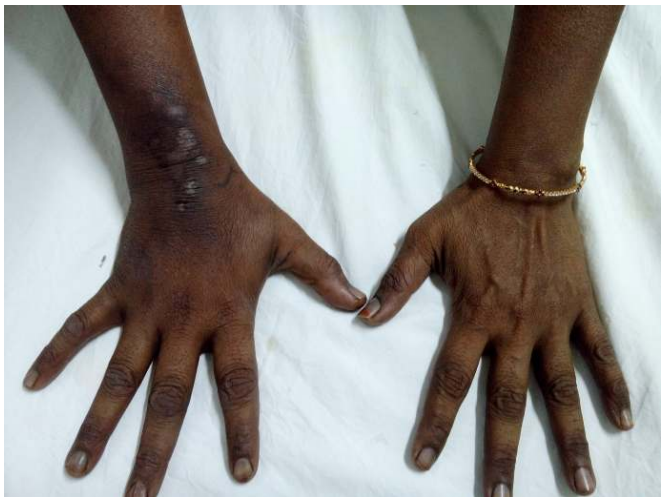

Fig. 1. Hyper pigmentation of hand

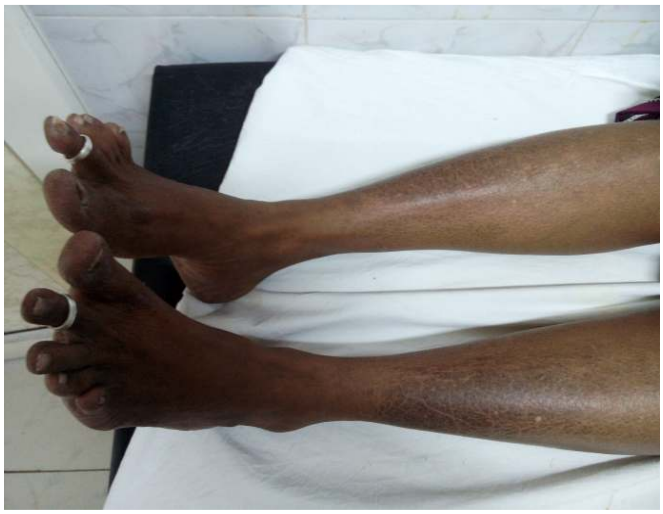

Fig. 2. Hyper pigmentation of foot

Fig. 3. Hyper pigmentation of tongue and oral cavity

3. DISCUSSION

Reported complications following administration of 5FU including hyper pigmentation, radiation recall, nail discoloration, hand foot syndrome (Palmar-plantar erythrodysesthesia) [2]. Cutaneous effects of 5FU include lupus erythematosus, seborrheic dermatitis, photo-sensitivity, cutaneous hyper pigmentation [1]. There are numerous antineoplastic drugs are associated with hyper pigmentation. They are cyclophosphamide, 5-fluorouracil, doxorubicin, capecitabine, carmustine, bleomycin and daunorubin [3].

Aetiology of hyper pigmentation following chemotherapeutic drugs administration remains unknown. There are few theories for hyper pigmentation which includes 1. Direct melanocytes stimulation. 2. Increased melanin production. 3. Increased secretion of melanocytes stimulating hormone. 4. Hyper secretion of ACTH. 5. Hypersensitivity of skin following chemotherapy. 6. Formation of drug melanin complex which is insoluble 7. Increased collection and secretion of the drugs by sweat glands in the palms and soles and oral cavity [4].

Most of the hyper pigmentation occurs in sun exposed area and veins where chemotherapeutic drug was administrated. Pattern of hyper pigmentation of each chemotherapeutic drug varies. Tegafur and capecitabine produces acral hyper pigmentation, [5] busulfhan, cyclophosphamide, hydroxyurea produces diffuse hyper pigmentation, fluoropyrimidines produces Lentigo and eruption naevi, patchy and serpiginous hyper pigmentation produces by 5FU [6,7,8].

Management of hyper pigmentation following chemotherapy varies from conservative to dose modification. Hyper pigmentation following 5FU doesn't need dose modification. It can be treated safely with topical emollients and reassurance [1].

4. CONCLUSION

5-fluorouracil associated with numerous complications. Hyper pigmentation of hand and foot, tongue and oral mucosa were rarely reported. Patient on chemotherapy with 5-FU with hyper pigmentation can be managed conservatively. Patient can be reassured that hyper pigmentation may fade in due course.

CONSENT

All authors declare that 'written informed consent was obtained from the patient (or other approved parties) for publication of this case report and accompanying images.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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