

***Corresponding author**

*Dr Vishnu Sharma, Associate professor in Medicine Department at SMS Medical College, Jaipur.

***Key Words:**

Myeloproliferative disorders, Leg ulcers, Hydroxyurea, Primary Myelofibrosis, Adverse drug reactions.

Hydroxyurea-associated Leg Ulcers in primary Myelofibrosis: A Case Presentation

Dr Vishnu Sharma¹ MBBS, MD, DM , Dr Naman Modi MBBS², Mr Vansh Bagrodia³

¹Associate professor in Medicine Department at SMS Medical College, Jaipur

² Doctor of Intern at SMS Medical College, Jaipur

³Student of Final year MBBS at SMS Medical College, Jaipur

Abstract

Hydroxyurea, a cytotoxic agent commonly employed in the treatment of myeloproliferative disorders, has been linked to various dermatological manifestations, including the infrequent occurrence of leg ulcers. We present a case of a middle-aged male patient with a medical history of primary myelofibrosis, who presented with multiple painful leg ulcers secondary to hydroxyurea therapy. This case underscores the critical significance of comprehensive literature review and meticulous evaluation to identify and manage adverse events associated with hydroxyurea therapy.

Case

A male patient in his 60s, who was receiving treatment for primary myelofibrosis (DIPSS Plus Intermediate-1 risk group) with hydroxyurea, presented with multiple painful ulcers located below the ankle on the medial, lateral and posterior sides of the left leg (figure 1). These ulcers exhibited ill-defined margins and showed signs of sloughing and degenerative changes at the floor. On physical examination, the ankle-brachial index was within the normal range (1; Normal range: 0.9-1.3) and pedal pulses were felt bilaterally. There were no dilated veins or pain with dorsiflexion of foot. Other common causes of leg ulcers, such as diabetes mellitus, hypertension, infectious etiologies, and autoimmune conditions, were also ruled out. A biopsy of the ulcer showed no signs of cancer. The patient's therapy also included thalidomide and amitriptyline; however, no documentation of leg ulcers caused by these medications was found.

Consequently, a decision was made to discontinue hydroxyurea, and the patient was started on ruxolitinib. After a period of 2 months following the discontinuation of hydroxyurea, a notable improvement in the ulcers was observed (figure 2), thus confirming a diagnosis of hydroxyurea-induced ulcers.

Adverse effects associated with hydroxyurea include various skin manifestations such as xerosis, nail discoloration, diffuse hyperpigmentation and skin eruptions to name a few.¹

Although rare, the occurrence of leg ulceration has been documented, affecting approximately 9% of patients undergoing hydroxyurea therapy for myeloproliferative diseases.¹ The mechanism is thought to be associated with the cytotoxic action of hydroxyurea on proliferating cells during the synthesis phase of the cell cycle, which may impair the synthesis of keratinocytes and collagen fibers in the skin. ¹

Financial disclosure statement: The authors declared that this study received no financial support.

Conflict of interest statement: No conflicts of interests were declared by the authors.

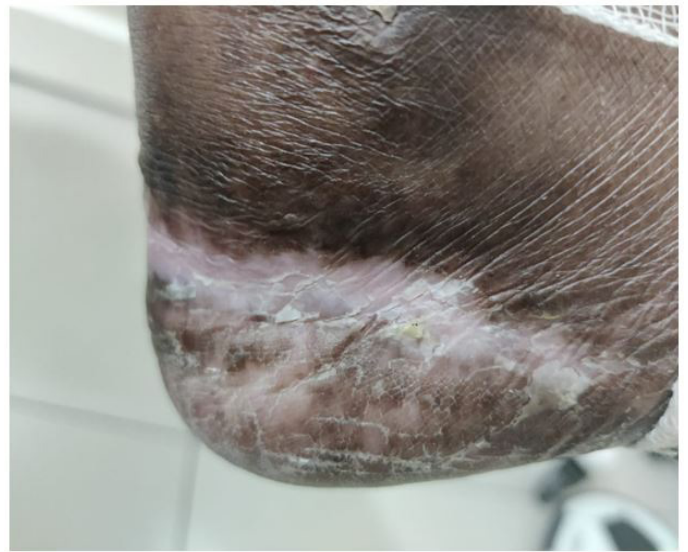


Figure 1: Multiple painful ulcers located below the ankle on the left leg with ill-defined margins and signs of sloughing and degeneration

Figure 2: Healing observed in leg ulcers after discontinuing Hydroxyurea

References

1. Sirieix ME, Debure C, Baudot N, et al. Leg ulcers and hydroxyurea: forty-one cases. Arch Dermatol. 1999;135(7):818-820. doi:10.1001/archderm.135.7.818