

Toxic Epidermal Necrolysis-Like Lesions as Cutaneous Manifestation of Acute Methotrexate Toxicity

Sir,
A 60-year-old male presented to dermatology outpatient department with 5 days history of generalized exfoliation and superficial erosions of skin, oral, and genital mucosa. Lesions were associated with pain and burning sensation. On taking a detailed history, it was revealed that he was a known case of plaque psoriasis for many years and in the recent past, oral methotrexate was prescribed by a dermatologist in a dose of 7.5 mg per week. Patient admitted that he was mistakenly taking methotrexate tablet daily for last 1 week following which his preexisting lesions flared up and generalized rash developed over trunk which rapidly spread over entire skin within next 3 days [Figure 1a and b]. Lesions were tender and Nikolsky sign was positive. Nail and hair

were unaffected. On general examination, patient was febrile (100.7°F) and had tachycardia (110 bpm). Systemic examination was unremarkable. On investigations, total leucocyte count was 1750/mm³ and platelet count was 80,000/mm³. Liver function tests were deranged with SGPT-205 IU/L and SGOT-176 IU/L. Serum-albumin level was low (2.65 g/dL). Renal function tests and X-ray chest were normal. Skin biopsy was offered to the patient but he refused. A provisional diagnosis of methotrexate-induced epidermal necrolysis (MEN) was made and patient was admitted in the isolation ward of dermatology department. Serum methotrexate levels could not be done due to nonavailability of this investigation at our center. Patient was then treated with intravenous folinic acid (leucovorin) 20 mg 6 hourly on day 1 followed by 10 mg 6 hourly till his blood counts returned to normal. Intravenous fluids and injectable broad-spectrum antibiotics were started. Skincare was given in the form of topical antibiotics (Nadifloxacin 1% cream), and raw areas were covered with a paraffin gauze dressing.

Within a week of initiation of treatment, his rashes started to resolve [Figure 2a and b] and blood counts gradually returned to normal.

MEN is a rare, yet life-threatening cutaneous adverse reaction. Clinical presentation of MEN mimics Steven–Johnson syndrome and toxic epidermal necrolysis (TEN). In our case, occurrence of acute skin detachment, mucosal erosions, low blood counts after taking more than recommended dose of MTX, and rapid improvement in clinical as well as hematological parameters with leucovorin point toward the diagnosis of acute methotrexate toxicity. A biopsy would have strengthened the diagnosis of

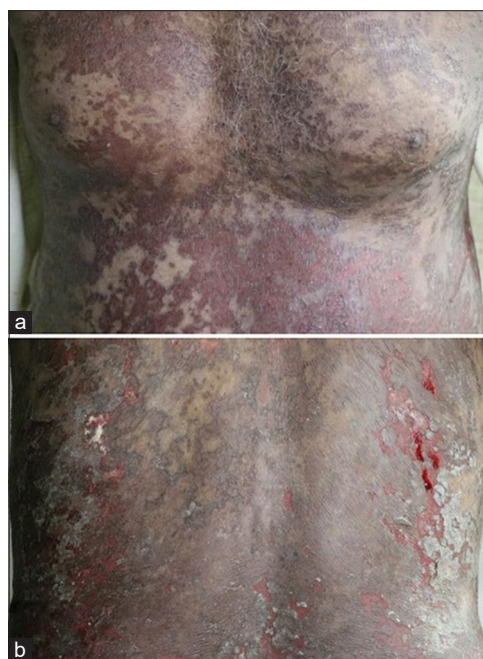


Figure 1: (a and b) Pretreatment—Epidermal necrolysis seen over (a) chest and abdomen, (b) back

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Access this article online

Website: www.idoj.in

DOI: 10.4103/idoj.IDOJ_256_20

Quick Response Code:



How to cite this article: Singh R, Meena M, Patidar A, Mittal A. Toxic Epidermal Necrolysis-like lesions as cutaneous manifestation of acute Methotrexate toxicity. Indian Dermatol Online J 2021;12:340-1.

Received: 19-Apr-2020. **Revised:** 12-Jun-2020.
Accepted: 17-Jul-2020. **Published:** 28-Sep-2020



Figure 2: (a and b) Posttreatment—Marked clinical improvement seen on day 10 of treatment

MEN. Whether the epidermal necrolysis is an allergic or dose-related toxicity reaction is still controversial. There are few reports of methotrexate-induced TEN due to high doses of methotrexate,^[1] but TEN like presentation with low-dose methotrexate has rarely been reported.^[2,3]

Low-dose methotrexate therapy used in psoriasis rarely produces toxicity, and most such cases occur due to failure to adhere to the recommended guidelines.^[4]

Possibility of a dosing error and risk of toxicity is higher in elderly population because of impaired cognitive function and decreased urinary clearance as methotrexate is excreted unchanged primarily by the kidneys. Clear written instructions should be provided to the patients which specify a particular day of the week for taking the drug. The similarity between methotrexate tablets of different strengths can be another cause of dosing error. Having different color, size, and shape for different strengths might solve this problem.

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.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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