

CLINICAL IMAGE

Uremic Frost

Zeeza Hussain Shah

Department of Internal and Pulmonary Medicine, SKIMS

ABSTRACT

Uremic frost is a rare entity these days, owing to the widespread availability of hemodialysis. It is seen in patients with severe azotemia when a high urea concentration accumulates in sweat and crystallizes on the skin, giving a frost-like appearance.

Keywords- uremic frost, chronic kidney disease, pruritus, xerosis

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DESCRIPTION

A 40 yr. old female known case of chronic kidney disease on poor follow-up presented with chief complaints of recurrent vomiting for the past five days and gradually worsening pruritus over the past month. On examination, the patient had xerosis, hyper-pigmented skin with deposits of white flaky material all over the body, particularly the limbs (uremic frost). Laboratory investigations revealed severely elevated urea levels of 375 mg/dl with serum creatinine levels of 22.32 mg/dl and arterial blood gas showing metabolic acidosis with a ph of 7.26; serum HCO₃⁻ of only 7.3 mEq/l and pCO₂ of 16.6 mEq/l. The patient also had severe normocytic normochromic anaemia with Hb of 6.8 gm/dl MCV- 89fl. Serum biochemistry revealed severe hypocalcemia of 6.2 mg/dl and hyperuricemia of 14.06 mg/dl. The patient has immediately initiated on hemodialysis with gradual symptoms and laboratory parameters improvement.

To confirm the presence of urea in the crystals deposited over the skin, we took scrapings dissolved in normal saline. We tested for urea levels, which were reported to be positive for urea with levels comparable to blood.



Fig. 1

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Correspondence:

Dr. Zeeza Hussain Shah
Post Graduate
Department of Internal and Pulmonary Medicine, SKIMS
Contact: 8003393835 Email ID- shahzeezahussain@gmail.com

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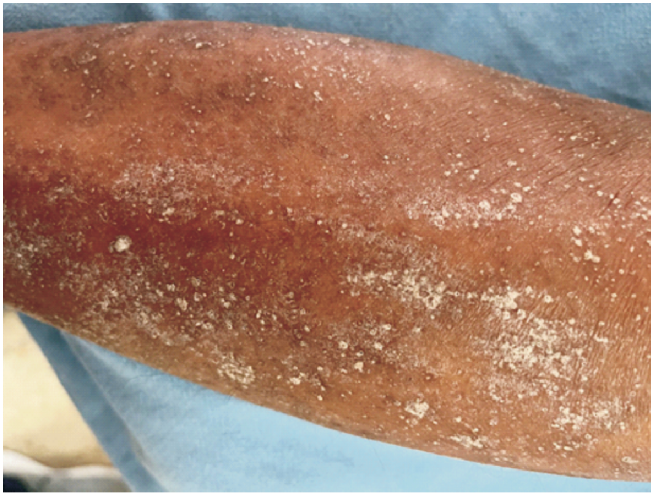


Fig. 2



Fig. 3



Fig. 4

Fig 1-4 depict the presence of white flaky material on skin (uremic frost) along with hyperpigmentation of the surrounding skin.

DISCUSSION

Uremic frost is rarely seen due to early hemodialysis's widespread and easy availability. However, it is seen in patients with severe azotemia when a high concentration of urea accumulates in sweat and crystallizes on the skin after evaporation of sweat, giving a frost-like appearance. It is most commonly seen in the scalp, face, neck and forearms.

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