Acquired Perforating Dermatosis in a Patient of Diabetes Mellitus with Chronic Kidney Disease

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Abstract

Acquired perforating dermatosis characterised by the transdermal excursion of dermal material which clinically presents as umbilicated skin-coloured papules with a central white crust. A 45 year old male patient with diabetic nephropathy presented with similar lesion and itching. Diagnosis was confirmed by biopsy from appropriate site. Patient responded well to emollients, low dose-retinoids, broad spectrum renal friendly antibiotics and haemodialysis.

Introduction

Primary lesion in acquired perforating dermatosis is umbilicated papules with a central hyperkeratotic crust. This condition is associated with diabetes or renal failure and with the koebner phenomenon. It includes perforation of epidermis mainly by two mechanism.
1. Degenerated connective tissue that is eliminated through the epidermis.
2. Hyperkeratotic material that penetrates into dermis.

We report the case of acquired perforating folliculitis in a patient of chronic kidney disease with diabetic nephropathy.

A 45 year old male patient shopkeeper by occupation presented in Safdarjung hospital emergency department with chief complaints of shortness of breath, cough and weakness for one month. Patient was a known case of Type 2 diabetes mellitus for past 20 years for which he was taking oral hypoglycaemic agents, he was also diagnosed with diabetic nephropathy 1 year back for which he was on intermittent dialysis. No past history of any dermatological lesion was present.

Patient presented with deranged blood sugar with no signs of ketoacidosis at the time of presentation for which he was switched to appropriate intermediate acting insulins. On examination there were multiple hyperpigmented, keratotic papular lesion presented on trunk, thighs and lower limb (Figures 1 - 5) for duration around 1 month, no past history of any such lesion present.

Following investigations were done B. Urea-123, S. creatinine-14.1, Hb- 7.5, TLC-4600, P/L/M/E(%) -73/25/01/01, S.Albumin-3.2, S.Globulin-2.6, S.Calcium-6.0, S.Phosphate-5.0, S.Bilirubin-0.6, SGOT-37, SGPT-111, ALP-350. HBsAg, HBcAg and HIV (1 and 2) were negative.

Patient underwent urgent haemodialysis followed by multiple dialysis after which general condition was stable. A skin biopsy was taken from appropriate site which was sent for histopathological examination with special vital stain in the ICMR, Delhi. Biopsy was examined at multiple levels which revealed perforating folliculitis which was consistent with our clinical findings (Figures 6 - 8).

Patient was treated with injectable clindamycin 600 mg three times a day for 7 days, low dose retinoids(0.025%),emollients for fifteen days after which lesions on skin partially subsided.

Discussion

Acquired perforating dermatosis (APD) is a skin disorder occurring in the patients
with chronic renal failure (CRF), diabetes mellitus (DM) or both. Recent studies had revealed that scratching is involved in pathogenesis of APD.1

Acquired perforating dermatosis classically presents with pruritic papules and nodules with crust-filled crater distributed most commonly on areas accessible to scratching, such as the limbs and trunk, often in an linear fashion.2-4 In patients with APD, pruritus that leads to chronic scratching is thought to induce trauma in the epithelium and superficial dermis, leading to transepidermal elimination of collagen or elastic fibres.5 It has also been suggested that alterations in collagen or elastic fibres related to various aetiologies, such as metabolic disturbances, dysregulation of vitamin D or vitamin A metabolism, microdeposition of substances such as calcium pyrophosphate and uric acid might contribute to the pathogenesis.6

References