Multiple Pruritc Hyperkeratotic Papules in a Patient with End-stage Renal Disease

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A 51-year-old man, a hepatitis-C virus carrier with diabetes and end-stage renal disease, was referred to the Dermatology Clinic with a 3-month history of pruritic eruption involving the scalp initially, gradually increasing in number, and becoming generalized. He had a poor-controlled DM for more than 20 years and was complicated by diabetic retinopathy, which was treated by photo-coagulation. He was hypertensive and in end-stage renal failure in 1999. He started hemodialysis since then. In September 2001, he was admitted to the hospital for the management of cholestasis induced by herbal medicine. His family history was unremarkable.

On examination, he had multiple erythematous, partly hyperpigmented papules which were 0.5cm in diameter and with central adherent keratotic plugs (Fig. 1). The scalp, trunk, and the extensor surfaces of the extremities were affected. Some of the lesions showed linear distribution.

Laboratory investigations revealed a blood urea nitrogen level of 112.5 mg/dl, a creatinine level of 6.9 mg/dl and a fasting glucose level of 250 mg/dl. Liver function tests revealed an AST level of 35 U/L, and an ALT level of 12 U/L. He was also positive for anti-hepatitis C virus antibody.

A biopsy was taken and the tissue specimen was stained with H & E (Fig. 2), Masson's trichome stain (Fig. 3) and Orcein stain (Fig. 4).

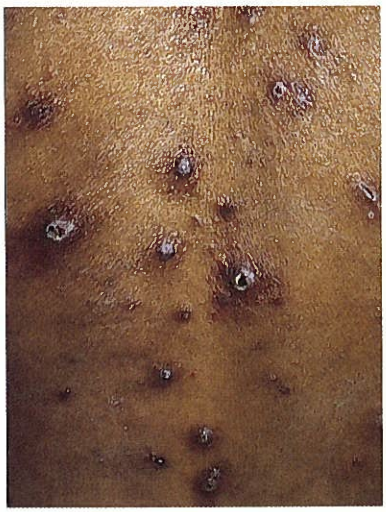

Fig. 1
Many round to oval, hyperkeratotic papules with central umbilication on the back.

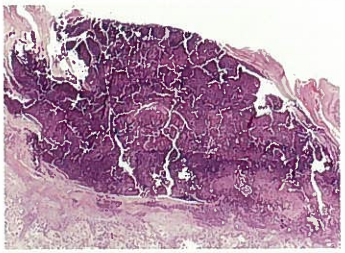

Fig. 2 (H & E, x40)

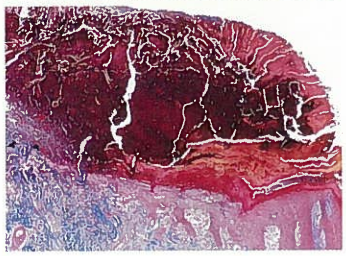

Fig. 3
Masson's trichome stain, x40

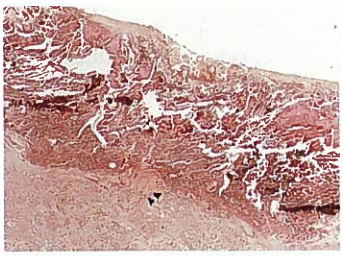

Fig. 4
Orcein stain, x40

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DIAGNOSIS: *Acquired Perforating Dermatosis*

DISCUSSION

Perforating disorders of the skin include classically four main primary entities: Kyrle's disease, elastosis perforans serpiginosa, hereditary reactive perforating collagenosis and perforating folliculitis. These diseases are characterized by the transepidermal elimination of some component of the dermis.[1] In the last two decades, an acquired form of perforating dermatosis have been reported in association with a systemic disorder, such as chronic renal failure (CRF) and diabetes mellitus (DM).[2-4] The four primary entities of the perforating disorders have been reported as occurring in patients with CRF or DM, with a great degree of histologic variation and even overlapping features.[2,3] However, the distinguishing features among the four disease entities were sometimes unreliable, e.g., the presence of koebnerization and the involvement of the follicular epithelium by the perforating process. The acquired form of perforating disorders is now regarded as being distinct from the above-mentioned four classical types of perforating dermatosis.

In 1989, Rapini *et al.*[5] reviewed four patients with CRF or DM and a perforating disorder of the skin. The biopsy specimens showed combined transepithelial elimination of both collagen and elastic fibres. They suggested that in patients with CRF or DM the varying histological findings represent different stages or different types of lesions of a single pathologic process and they should be referred to as "**acquired perforating dermatosis**". This term avoids describing what material is being transepidermally eliminated, and it excludes some unreliable clinical features such as koebnerization and follicular involvement in justifying the diagnosis. We hereby describe a similar case with a perforating disease of the skin exhibiting transepidermal elimination of both collagen and elastic fibers with no particular follicular involvement. The presentation does not fit into the criteria of the classic perforating disorders. It seems appropriate to designate this patient as having acquired perforating dermatosis rather than one of the four classic perforating diseases.

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