

DERMATOLOGICAL MANIFESTATIONS OF CHRONIC RENAL FAILURE

Tawade Y V, Gokhale BB

Dermatological manifestations of chronic renal failure were studied in 35 cases. Xerosis was seen in 16 cases. Pruritus was observed in 12 cases and hyperpigmentation on exposed areas was seen in 8 patients. Acquired perforating disorder and half and half nail were seen in 6 cases each. Skin Biopsies performed in 6 cases of APD showed typical changes only in 3 cases.

Key Words : Chronic renal failure, Acquired perforating disorder

Introduction

Rapid advances in medical science have permitted early diagnosis and treatment of patients with chronic renal failure (CRF) improving the quality of life and prolonging the life expectancy of these patients. However, long standing metabolic changes in these patients affect different systems of the body including skin. There are various dermatological manifestations seen more frequently in patients with CRF. Here we report study of 35 patients with CRF for dermatological manifestations.

Material and Methods

Thirty five patients with chronic renal failure on haemodialysis were examined for skin and nail changes. Thirty males and 5 females were included in the study. Majority of the patients were in their third and fourth decades of life. Duration of CRF varied from few months to few years. The patients underwent a complete skin examination and biochemical investigations. Skin biopsies were performed in 6 cases having acquired perforating disorder.

Results

Xerosis was the most common finding in our series observed in 16 (46%) cases. Generalised paroxysmal pruritus was seen in 12 (34%) cases. pigmentation on exposed areas was seen in 8 (23%) cases. Specific changes like half and half nail and acquired perforating disorder were seen in each of the 6 (17%) cases. Skin biopsies taken from the lesions of acquired perforating disorder in 6 cases showed parakeratotic column touching the dermis and perforating at places in 3 cases. Calcinosis cutis and abnormal bruising were not seen in any of our patients.

Discussion

Xerosis of skin was seen in 16 (46%) cases and was the most common finding in this series. Uraemic xerosis is mainly due to impairment of exocrine sweat glands with decreased sweating.¹ Xerosis is the most common cutaneous abnormality in CRF seen in about 90% patients undergoing haemodialysis.²

Generalised pruritus was seen in 12 (34%) cases. Intensity of pruritus was more during or soon after haemodialysis in 6 patients. Previous studies showed that prevalence of pruritus in CRF ranged from 19% to 90%.³⁻⁶ The aetiology of pruritus in CRF is unknown. Factors suggested include xerosis, accumulation of certain metabolites

From the Department of Dermatology and STD, KEM Hospital, Pune-11, India.

Address correspondence to : Dr Tawade YV, 286, Ganesh Chambers, Ganesh Path, Pune-2.

which stimulate mast cell activity and hyperparathyroidism.

Hyperpigmentation mainly on exposed area was seen in 8 (23%) patients. Pico et al found diffuse hyperpigmentation on the sun exposed areas in 22% cases.⁶ Hyperpigmentation in CRF is due to accumulation of β -MSH.⁷

The half and half nail is a unique condition characterised by red, pink or brownish discolouration of the distal nail bed that does not disappear after pressure. In our study it was seen in 6 (17%) cases. Previous studies have found incidence ranging from 16 to 50.6%.^{3,8,9} The prevalence in the general population has been reported to be 1.4%.⁸

Acquired perforating disorder (APD) is characterised by the hyperkeratotic follicular papules present in the patients with CRF. The prevalence of this condition varies from 4.5% to 10%.^{10,11} In the present study, APD was seen in 6 (17%) cases. All these patients were diabetic. Calcinosis cutis and splinter haemorrhages were not seen in any of our patients.

References

1. Cowely EP, Hoch-Ligeti C, Bond GM. The eccrine sweat glands of patients in uraemia. *Arch Dermatol* 1961; 84: 51-6.
2. Stahle Backdalalm Higer Mark O, Lins LE. Pruritus in patients on maintenance haemodialysis. *Acta Med Scand* 1988; 224: 55-60.
3. Kint A, Bussels L, Fernandez M, et al. Skin and nail changes in relation to chronic renal failure. *Acta Derm Venereol (Stockh)* 1974; 54: 137-40.
4. Tapia L. Pruritus on haemodialysis. *Int J Dermatol* 1979; 18: 217-8.
5. Gilchrest BA, Stern RS, Steinman TL, et al. Clinical features of pruritus among patients undergoing maintenance haemodialysis. *Arch Dermatol* 1982; 118: 154-6.
6. Pico MR, Somalinos AI, Sanchez JL, Calderm RB. Cutaneous alteration in patients with chronic renal failure. *Int J Dermatol* 1992; 31: 860-3.
7. Smith AG, Schuster S, Thody AJ, et al. Role of the kidney in regulating plasma immunoreactive beta melanocyte stimulating hormone. *Br Med J* 1976; 1: 874-6.
8. Luback D, Strubbe J, Schmidt J. The half and half nail phenomenon in chronic haemodialysis patient. *Dermatologica* 1982; 164: 350-3.
9. Stewart WK, Raffle EJ. Brown nail bed arcs and chronic renal diseases. *Br Med J* 1972; 1: 784-6.
10. Rapini RP, Hebert AA, Drucker CR. Acquired perforating dermatosis. *Arch Dermatol* 1989; 125: 1074-8.
11. White CR, Heskøel NS, Pokorny DJ. Perforating folliculitis of haemodialysis. *Am J Dermatopathol* 1982; 4: 109-16.