

Dialysis-related Amyloidosis on the Buttocks

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Sir,

β_2 -microglobulin amyloidosis, a type of systemic amyloidosis, occurs in association with long-term haemodialysis. Skin involvement has rarely been reported. We report here a case of β_2 -microglobulin amyloidosis presenting as a pediculated dermal nodule and large subcutaneous masses on the buttocks.

CASE REPORT

A 69-year-old man presented with a few years' history of nodules on the buttocks. Past history included chronic renal failure controlled with haemodialysis for 19 years and a decompression operation for carpal tunnel syndrome. Physical examination revealed a red-brown pediculated nodule 50×20 mm in diameter on the sacral region (Fig. 1A). In addition, 120×80 mm elastic, hard subcutaneous masses were palpable beneath the skin of the buttock. Laboratory findings showed increased

levels of blood urea nitrogen (38 mg/dl; normal range 7–19 mg/dl), serum creatinine (6.5 mg/dl; normal range 0.5–0.8 mg/dl) and β_2 -microglobulin (24.8 mg/dl; normal range 0.9–1.9 mg/dl). Serum electrophoresis yielded normal results. Histological examination of the pediculated nodule and subcutaneous masses revealed massive eosinophilic amorphous deposits throughout the entire dermis and subcutaneous tissues. Eosinophilic materials were amyloid, as revealed by Cotton dyes (Dylon) staining (Direct Fast Scarlet 4BS; Muto Pure Chemicals Co. Ltd, Tokyo, Japan) (1) (Fig. 1B). Immunohistochemical staining showed that amyloid materials comprised β_2 -microglobulin (rabbit polyclonal anti-Human β_2 -microglobulin Ab. DAKO cytometry Co. Ltd, Kyoto, Japan) (Fig. 1C). The patient died of pneumonia. Autopsy revealed amyloid nodules in subcutaneous regions of the chest, neck and shoulders. Nodules were also found in the pelvic spaces and greater omentum. However, no amyloid was detected in the heart or gastrointestinal tract.

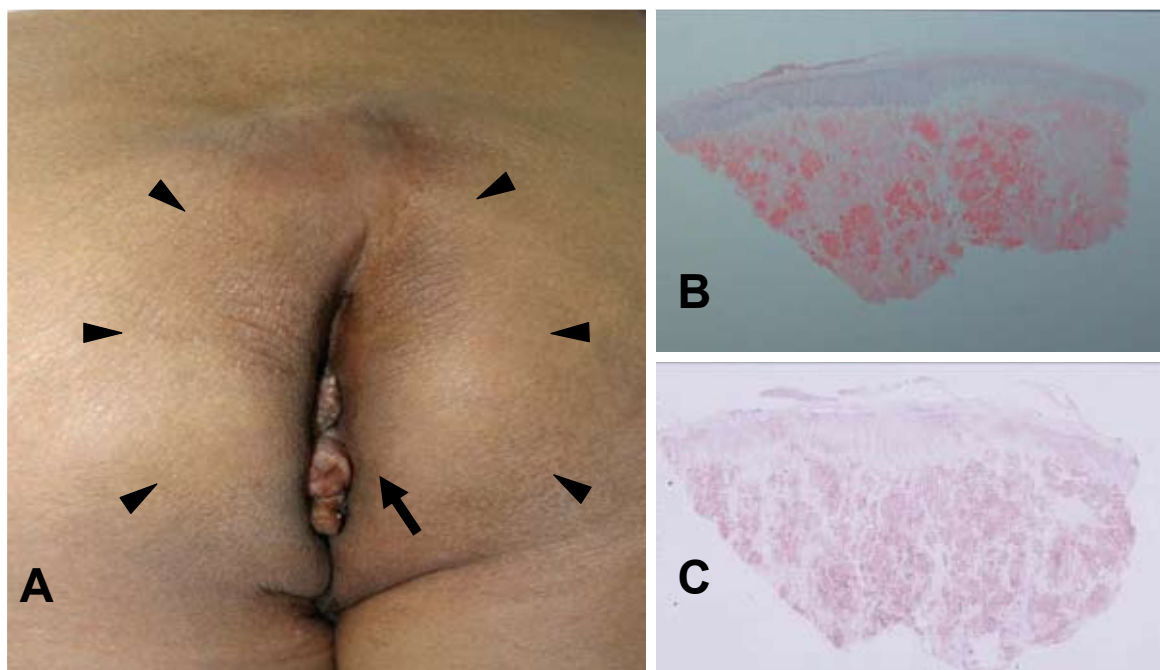


Fig. 1. Clinical and histological manifestations in this case. (A) Pedunculated brown nodule (arrow) and bilateral large subcutaneous masses (arrowheads) on the buttocks. (B) Massive eosinophilic amorphous materials were apparent throughout the entire dermis, and were positive on Cotton dyes (Dylon) staining. (C) Immunohistochemical staining for β_2 -microglobulin (immunohistochemical staining with DAKO Envision Kit. The reaction product was visualized by diaminobenzidine).

DISCUSSION

Systemic amyloidosis can be classified into several groups, such as amyloid L (AL) and amyloid A (AA) amyloidosis. AL and AA amyloidosis frequently involve both skin and internal organs (2). In dialysis-related amyloidosis, carpal tunnel syndrome and gastrointestinal and/or cardiac involvement are frequent clinical features (3), whereas skin involvement is uncommon. Hyperpigmentation of the skin and lichenoid skin lesions, histologically characterized by amyloid deposition in the papillary dermis and peri-appendageal areas, have been reported in haemodialysis patients (4, 5). We report here massive dermal and subcutaneous amyloid nodules on the buttocks of a patient on haemodialysis. A previous report suggested that bilateral subcutaneous nodules on the buttocks represent a rare but important skin manifestation in dialysis-related amyloidosis (6). The present case is consistent with this possibility, but differs from previous cases in that amyloid was deposited not only in subcutaneous fat, but also in the entire dermis, giving rise to peculiar clinical features, i.e. a protruding brown nodule.

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