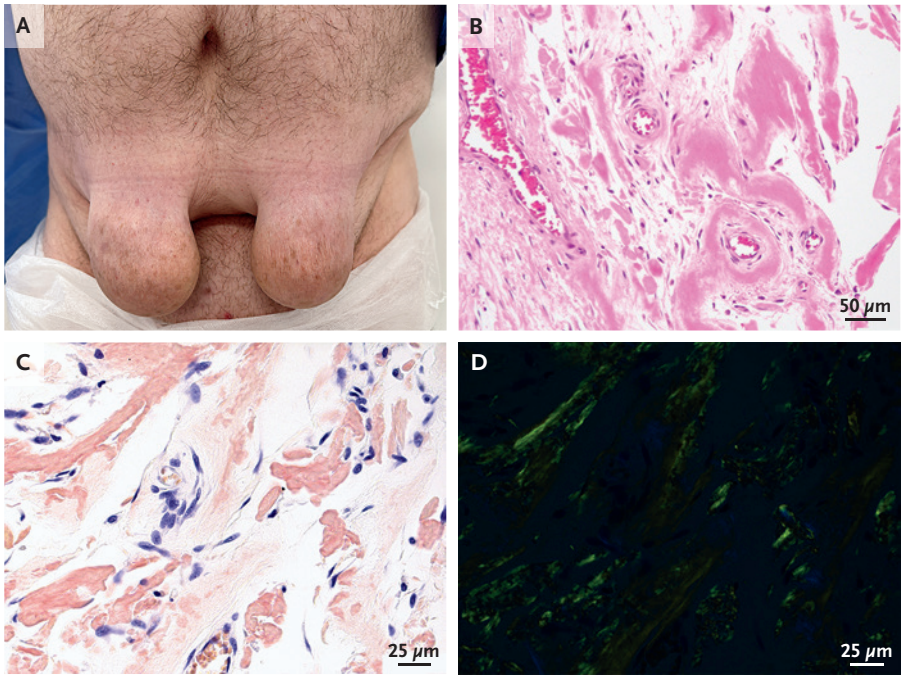
IMAGES IN CLINICAL MEDICINE

Insulin-Derived Amyloidosis



A 47-year-old man with type 2 diabetes presented to the endocrinology clinic owing to several years of progressive growth of skin lesions on his lower abdominal wall where he had repeatedly injected insulin. He also reported unpredictable episodes of hypoglycemia. A physical examination was notable for two pendulous skin masses on the lower abdominal wall (Panel A). The glycated hemoglobin level was 9.2% (reference value, <7.1). The patient was counseled to rotate the sites of insulin injection and stop injecting into the masses. At a follow-up visit 6 months after presentation, the patient's insulin requirements had decreased and the glycated hemoglobin level was 7.5%. The masses were unchanged, so surgical resection was performed for cosmesis. Histopathological assessment showed amorphous eosinophilic deposits (Panel B; hematoxylin and eosin staining), positive Congo red staining (Panel C), and apple-green birefringence under polarized light (Panel D). The specimen also stained positive for thioflavin T under fluorescence. A diagnosis of insulin-derived amyloidosis — the accumulation of subcutaneous amyloid deposits at sites of repeated insulin injection — was made. Insulin-derived amyloidosis is challenging to differentiate from lipohypertrophy — another cutaneous complication of repeated insulin injections — without histopathological assessment. Both conditions are prevented by frequent rotation of insulin-injection sites. At a 3-month postoperative follow-up visit, the patient felt well.

Daniel Connors[1]
Philip Chia, F.R.A.C.S.[2]
[1]Royal College of Surgeons in Ireland, Dublin; [2]Australian National University College of Health and Medicine, Canberra, ACT, Australia.

Dr. Chia can be contacted at philip.chia@anu.edu.au.

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