Electron microscopical and immunohisto logical studies on a case of lupus panniculitis

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Lupus panniculitis is an entity closely related to SLE. However, predominant lesions exist in fat tissues. In this case, immunohistology revealed that IgG bound to the cytoplasmic membrane of fat cells and their characteristic degeneration and destruction could be observed electronmicroscopically.

PATIENTS AND METHOD

A 17 y/o female complained of a movable subcutaneous nodule in the upper extremities which had been there for 3 months. Test results were: ANA, homogenous and speckled 120x, anti-DNA 47.7U/ml (RIA), nDNA 20, LE test (+), WBC 3600 (L60%), anti-ENA<40, lues RPR slide (+), TPHA (-), IgG 1380, IgM 204, IgA 210, CH50 35.5U/ml, IC<1.5ug/ml. There was a butterfly rash but it was not remarkable. She responded to corticosteroid therapy.

RESULTS AND DISCUSSION

HE specimens revealed no remarkable changes in the epidermis but slight atrophy and a PAS positive deposit in the BMZ and toluidin blue positive in the cutis. Changes in the fat tissues were hyalinized fibrosis and infiltration of lymphocytes in nodular fashion (Fig. 1). Lipophages contained yellowish pigment or PAS positive substances. The lumen of arteries was thinned by periarterial hyalinization. Lipocytes showed signs of anisocytosis and characteristic fringe-like membrane changes. IgG were bound on to this altered membrane (Fig. 2) and in lipophages which phagocytosed them. Numerous CD4 and a slightly smaller number of CD8 cells were found in this lesion. Ultrastructurally, many macrophages with fewer lymphocytes had infiltrated between the degenerated lipocytes (Fig. 3). Fringe-like membrane changes were labyrinthic pro-
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jection of membrane into the lipid, which recollected us membranous lipodystrophy(Fig. 4). The other findings were multilayered basement membranes of arteries and incidental Birbeck's granules in infiltrating cells(Fig. 5).