Discoid Lupus Erythematosus in a Patient Receiving Cyclosporine for Liver Transplantation

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Sir,
Primary biliary cirrhosis is associated with many immunological abnormalities and is therefore widely held to be an autoimmune disorder (1). Among these are chronic thyreoiditis, rheumatoid arthritis, Sjögren's syndrome, scleroderma, the CREST syndrome and systemic lupus erythematosus (2, 3). Here, we report a patient who developed discoid lupus erythematosus (DLE) during treatment with cyclosporine 6 years after liver transplantation for primary biliary cirrhosis.

CASE REPORT

In November 1999, a 50-year-old woman presented with a 1-month history of sharply marginated bright-red discoid plaques on the nose, right cheek and scalp, causing a 2-cm diameter area of scarring alopecia. No other skin findings were present. Apart from photosensitivity, she did not suffer from any other symptoms. A skin biopsy revealed hyperparakeratosis and plugging of hair follicles, epidermal atrophy and infiltrating lymphocytes causing an interface dermatitis. Immunofluorescence studies showed granular deposits of IgG at the basement membrane zone (similar to a lupus band).

The patient had a 15-year history of primary biliary cirrhosis leading to liver failure and subsequent liver transplantation in 1993. Immunosuppressive therapy consisted of anti-thymocyte globulins immediately after transplantation, a short course of glucocorticosteroids and maintenance therapy with cyclosporine, which was given at a dosage of 175 mg daily (3 mg/kg of body weight) at the time of admission. Minor rises of liver enzymes in a cholestatic pattern suggestive of a recurrence of primary biliary cirrhosis in the allograft settled spontaneously under this therapeutic regimen. Drug-induced hypertension was treated with a combination of lisinopril 20 mg and hydrochlorothiazide 25 mg daily. The only other medications were ursodeoxycholic acid 300 mg and calcitriol 0.5 µg.

At the time of skin biopsy, liver function tests showed a cholestatic pattern with a three-fold rise of γ-glutamyl transferase (62 U/l; normal 6–19) and an elevated alkaline phosphatase (180 U/l; normal 50–155); the anti-mitochondrial antibody titre was 1:160. All other routine laboratory investigations were within the normal range; anti-nuclear antibodies, anti-neutrophil cytoplasmatic and anti-cardiolipin antibodies could not be detected.

Treatment of DLE consisted of cryotherapy and a steroid cream (with little success) and subsequently hydroxychloroquine 200 mg b.i.d. (6 mg/kg of body weight per day) in addition to a potent sunscreen. At a follow-up visit after 6 months, the lesions were only in partial remission. However, total clearance of skin lesions could be obtained with a 5 months course of chloroquine 250 mg daily.

DISCUSSION

The coexistence of primary biliary cirrhosis and other autoimmune disorders is well documented. However, to the best of our knowledge this is the first report of DLE following primary biliary cirrhosis. It is also of considerable interest that these lesions occurred despite immunosuppressive treatment.

There are several reports in the literature showing cyclosporine to be poorly effective in influencing DLE at a dosage up to 5.3 mg/kg/day (4, 5). Similar to our observation, Di Lernia & Bisighini described the onset of DLE in a patient receiving this drug for recalcitrant psoriasis (6).

The fungal metabolite cyclosporine is a potent immunosuppressive agent with a relatively selective action on T lymphocytes. However, paradoxical effects on the immune system by breaking self-tolerance may occur. Administration of this agent can elicit autoimmune diseases in certain animal models by inhibiting clonal deletion in the thymus with a consequent release of autoreactive T cells (7, 8).

In summary, it is intriguing to speculate that the predisposition to an autoimmune disease with primary biliary cirrhosis, on the one hand, and treatment with cyclosporine, on the other, may have contributed to the development of DLE in this patient. Our observation also demonstrates that treatment with cyclosporine is poorly effective in DLE.

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