Letters to the Editor

Uncommon causes of liver disease in juvenile systemic lupus erythematosus

Sirs,

Liver disorder, including hepatomegaly, can occur in up to 50% of patients with systemic lupus erythematosus (SLE) and is mostly attributable to fatty infiltration, congestion or non-specific hepatitis reflecting lupus activity (1-4). We describe two patients with juvenile SLE who developed uncommon hepatic complications.

A 10-year-old girl was diagnosed as having SLE based on the association of malar rash, arthritis, leukopenia, Coombs-positive haemolytic anaemia, thrombocytopenia, and positive antinuclear and anti-DNA antibodies. Treatment with prednisone led to clinical improvement. Two weeks later, her liver was found to be markedly enlarged, with a tender edge. A Doppler ultrasound revealed a large thrombus in the inferior vena cava (Fig. 1). Both anticardiolipin antibodies and lupus anticoagulant were detected. A diagnosis of Budd-Chiari syndrome associated with antiphospholipid antibodies (aPL) (i.e. antiphospholipid syndrome) was established, and low molecular weight heparin therapy was started. Over the following days, repeated ultrasound documented a reduction of the thrombus size and she was discharged with tapering prednisone and long term antithrombotic prophylactic therapy with warfarin to maintain the INR above 2.5.

A 9-year-girl suffering from autoimmune thyroiditis since the age of 6 was admitted with a 1-week history of fever, fatigue, arthritis, and lower limb purpura. Physical examination revealed diffuse abdominal tenderness, hepatosplenomegaly, ascites, and scanty purpuric lesions over the legs. Laboratory investigations revealed pancytopenia, hypocomplementemia, positive antinuclear and anti-DNA antibodies, negative aPL tests, and elevated aspartate aminotransferase, alanine aminotransferase, and -glutamyl-transpeptidase. Liver ultrasonography documented hepatomegaly with a multinodular pattern. A percutaneous liver biopsy showed a necrotising arteritis affecting a medium-size artery and fragments of liver parenchyma devoid of portal tracts with features of hepatocyte regeneration without significant fibrosis. A diagnosis of SLE with intrahepatic necrotising arteritis and nodular regenerative hyperplasia (NRH) of the liver was made and treatment with prednisone and oral cyclophosphamide was started. Two weeks later substantial clinical improvement was noted.

The first report of a patient with Budd-Chiari syndrome associated with a lupus anticoagulant was that of Bernstein *et al.* (5). It is now recognised that antiphospholipid syndrome is a leading cause of Budd-Chiari syndrome. To our knowledge, only two paediatric patients with Budd-Chiari syndrome associated with aPL have been previously described, both of whom did not have any evidence of a systemic underlying disease and were thus classifiable as having "primary" APS (6). Our first case underlines the fact that Budd-Chiari syndrome can be associated with the presence of circulating aPL in patients with juvenile SLE.

In the past, the liver was considered an organ in which arteritis rarely develops in SLE. However, a recent pathologic analysis of 52 cases has shown an incidence of arteritis of the liver of 21% (4), suggesting that this condition is more common in SLE than has been recognised previously. NRH of the liver is an infrequent condition characterised by diffuse transformation of the hepatic parenchyma into nodules of hyperplastic hepatocytes without significant fibrosis (7). Although the prevalence of NRH in SLE has not been determined, according to Japanese autopsy registry data for 1,468 patients its frequency is only 0.3% (4). However, it is known that many cases of NRH are detected incidentally from altered liver function tests or non-specific symptoms. Moreover, this lesion can be overlooked or misinterpreted in a routinely processed biopsy specimen, especially if a needle biopsy was performed or no reticulin staining was done. Thus, NRH as a cause of liver injury is probably more frequent than is commonly appreciated (8). Early diagnosis is important because NRH may progress to determine portal hypertension with hepatosplenomegaly, ascites, and bleeding from oesophageal varices. The relationship between arteritis and NRH of the liver is controversial. Although some investigators believe that intrahepatic arteritis does not produce NRH in SLE (4), others have hypothesised that altered hepatic blood flow causing ischemia may be the most important factor in the pathogenesis of NRH (8). We conclude that hepatic complications in juvenile SLE, although very uncommon, deserve appropriate diagnostic investigations and may require aggressive therapeutic interventions.

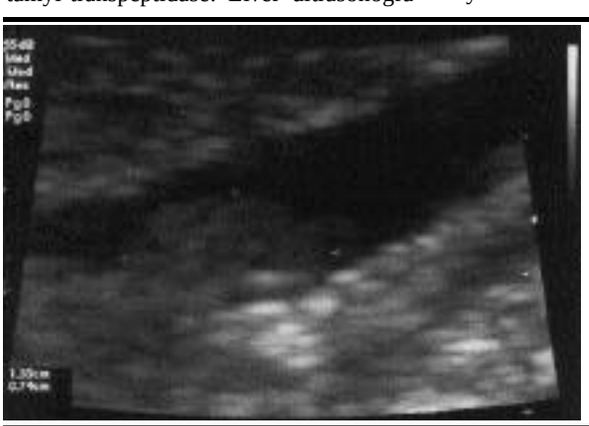

Fig. 1. Patient no. 1. Doppler ultrasound showing a large thrombus in the lumen of the inferior vena cava.

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