CRYPTOCOCCOSIS OF THE LIVER IN A SYSTEMIC LUPUS ERYTHEMATOSUS PATIENT

K Y Fong, W T Poh, H S Ng

SYNOPSIS

We described a 35-year old Malay woman with systemic lupus erythematosus and hemolytic anemia. (Direct Coombs Test, LE cells, Antinuclear antibody and Anti double-stranded DNA were positive). She presented with malaise and jaundice. The liver function tests on admission showed a markedly elevated serum alkaline phosphatase (SAP). Ultrasound examination and endoscopic retrograde cholangiopancreatography (ERCP) reveal no obstruction in the biliary tree. A post-mortem needle liver biopsy reveal extensive cryptococcosis of the liver. We report this patient as it is rare to have disseminated fungal infection in SLE patients prior to steroid therapy.

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INTRODUCTION

Fungal infections are relatively common in patients on steroid or cytotoxic drug therapy. It is however uncommon to have severe fungal infections in lupus patients prior to steroid therapy. Abnormal liver function test is not a feature of active SLE and requires further investigations to elucidate the cause. We describe a patient presenting with jaundice and a markedly raised serum alkaline phosphatase caused by cryptococcosis of the liver.

CASE REPORT

Mdm SMG, a 35 year old Malay housewife, was admitted with complaints of malaise and difficulty in swallowing of 2 days duration. She was noted to be jaundiced and had tea-coloured urine. There was no abdominal pain, clay-coloured stools or fever. The family members noted the presence of alopecia, but deny seeing any facial rash or joint swelling. No significant past medical or surgical history was elicited. Clinical examination on admission showed a thin, pale and lethargic woman. A malar rash and deep jaundice were noted. Vasculitic lesions were present over the palms and feet. No oral ulcers were seen but oral thrush was present. Blood pressure was 110/85 mm Hg. A soft ejection systolic murmur was heard at the lower sternal edge. Both lungs were clear. The liver was palpable 2 cm below the costal margin and the spleen was percussable. The initial diagnosis was systemic lupus erythematosus with hemolytic anaemia. Investigations reveal a Haemoglobin of 10.6g/dl (N: 12 - 16), total white cell count of 6.1 x 10(9)/1 (N: 4 - 10x10(9)) and a normal platelet count. The peripheral blood film show normocytes, few elliptocytes, fragmented cells and target cells. The activated partial thromboplastin (APTT) and prothrombin time (PT) were normal. Erythrocyte sedimentation rate (ESR) was 120 mm in the first hour and the reticulocyte count was 2.8% (N: 0.2 - 2). Direct Coomb's test was positive. Serological markers indicating SLE were all present (LE cells - 10/100 polymorphs, Anti-nuclear antibody - 1/640 Homogenous pattern, Anti-double stranded DNA was positive). The liver function tests were: Serum Total Protein - 6.9g/dl (N: 6.2 - 8.2) Serum Albumin - 2.2g/dl (N: 3.7 - 5.1), Total Bilirubin - 18.4mg/dl (N: 0.2 - 1.4), SAP - 928 U/L (N:32 - 103), SGPT - 57 U/L (N: 7 - 36), SGOT - 210 U/L (N:15 - 33). Hepatitis B surface antigen (HBsAg) was negative. Ultrasound examination of the hepatobiliary system showed a homogenously enlarged liver. The common hepatic duct was not dilated and no gallstones were seen. A liver biopsy scheduled was abandoned when she was unable to co-operate. An ERCP showed a normal biliary ductal system.

She was started on Prednisolone as well as oral Nystatin initially. A course of intravenous Gentamycin was given when she developed E. Coli urinary tract infection. Her general condition seemed to improve though the jaundice remained the same. On the 20th post-admission day, she suddenly had a spike of high fever and collapsed soon after. Resuscitation measures failed and a post-mortem needle liver biopsy revealed extensive invasion of the liver parenchyma by cryptococcus. (Figure 1).

DISCUSSION

Mdm SMG has systemic lupus erythematosus (Malar rash, Positive LE cells, Direct Coombs Test, Anti-double stranded DNA and Anti- nuclear antibody).(1) Jaundice in

Department of Medicine
Singapore General Hospital
Outram Road
Singapore 0316

K Y Fong, MBBS (S'pore), M Med (Int Med), Registrar

H S Ng, MBBS (S'pore) (Hons), M Med (Int Med), Consultant

Department of Pathology
Singapore General Hospital

W T Poh, MBBS (S'pore), Medical Officer

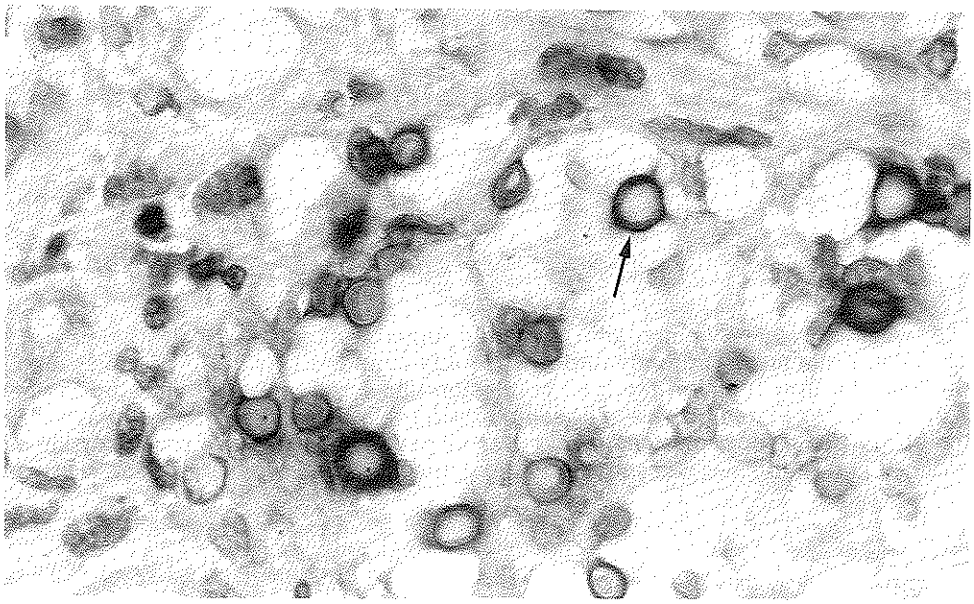

Fig 1: Histological section showing cryptococcal organisms in the liver parenchymal.

a lupus patient is usually a result of hemolysis and not due to lupus involvement of the liver. Hepatic dysfunction in active lupus is mild.(2) The patient presented with deep jaundice and a markedly elevated SAP. Her jaundice is contributed by both hemolysis as well as hepatic disease. The markedly elevated SAP is probably a result of granuloma formation as both ultrasound examination and ERCP showed no obstruction in the biliary tree. Cryptococcus neoformans, a yeast-like fungus, usually affects the lungs or meninges.(3) Hepatic invasion is rare in non-immunocompromised patients and those without prior operative procedures carried out on the biliary system. Our patient had cholestasis due to cryptococcosis at the time of admission. This is an unusual finding and may be due to a defect in the cell-mediated immunity seen with SLE patients. Recent studies have shown lupus patients to manifest a heterogenous range of T-cell defects. These T-cell defects may be primary or secondary to anti-T-cell antibodies.(4) In addition, deficient Natural Killer (NK) cell activity have been reported in active lupus patients.(5)

In conclusion, the hepatic cryptococcosis and oral candidiasis in our patient are probably due to her active SLE status with an associated defective cell-mediated immunity.

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ERRATUM

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Author's name should read as "V Y T Lee"