Haemoptysis and liver dysfunction

A 63-year-old woman presented with fatigue, anaemia, 2 stone weight loss and right upper quadrant pain. Liver enzymes were deranged (bilirubin 11 IU/litre, alanine aminotransferase 545 IU/litre, aspartate aminotransferase 555 IU/litre, alkaline phosphatase 156 IU/litre, and gamma glutamyl transferase 89 IU/litre). Liver screen was negative for viral hepatitis. Gamma globulin was raised at 24.79 g/litre (normal range 6–16 g/litre) and she had anti-smooth muscle, anti-nuclear and anti-ds DNA auto-antibodies. Liver biopsy (*Figure 1*) confirmed auto-immune hepatitis type 1 with a high necro-inflammatory score (14/18). She was started on steroid therapy.

The patient re-presented 2 weeks later with shortness of breath and haemoptysis, and underwent computed tomography pulmonary angiogram (*Figure 2*). Haematuria and acute kidney injury followed during the course of the disease.

Bronchoscopy revealed pulmonary haemorrhage in both lungs. Renal biopsy revealed focal segmental necrotizing glomerulonephritis. Pulmonary renal syndrome associated with autoimmune hepatitis was diagnosed. Cyclophosphamide along with prednisolone treatment resulted in clearing of pulmonary infiltrates and improved renal function.

Pulmonary renal syndrome is defined as the combination of diffuse alveolar haemorrhage and glomerulonephritis (Goodpasture, 1919; Stanton and Tange, 1958; Gallagher et al, 2002), as seen in this case. **BJHM**

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Gallagher H, Kwan J, Jayne RW (2002) Pulmonary renal syndrome: a 4-year, single center experience. *Am J Kidney Dis* **38**: 42–7

Goodpasture EW (1919) The significance of certain pulmonary lesions in relation to the aetiology of pneumonia. *Am J Med Sci* **158**: 863–70

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Figure 1. Haematoxylin and eosin-stained section of a liver biopsy showing interface hepatitis and a cell-rich mononuclear infiltrate mainly involving portal and periportal regions.

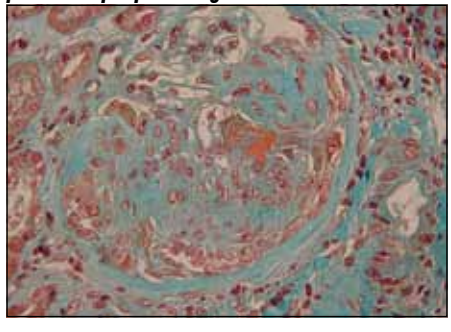

Figure 2. Computed tomography pulmonary angiogram reveals symmetrical alveolar shadowing in perihilar distribution involving both lungs.