

# Pulmonary renal syndrome: peripheral lung sparing

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A 57-year-old female with a history of well-controlled asthma presented with sub-acute onset of fevers, unintentional weight loss, cough and haemoptysis. On evaluation, she was noted to have new onset acute renal failure in the presence of serum perinuclear anti-neutrophil cytoplasmic antibody (P-ANCA) and peripheral eosinophilia. Anti-glomerular basement membrane antibodies were not detected.

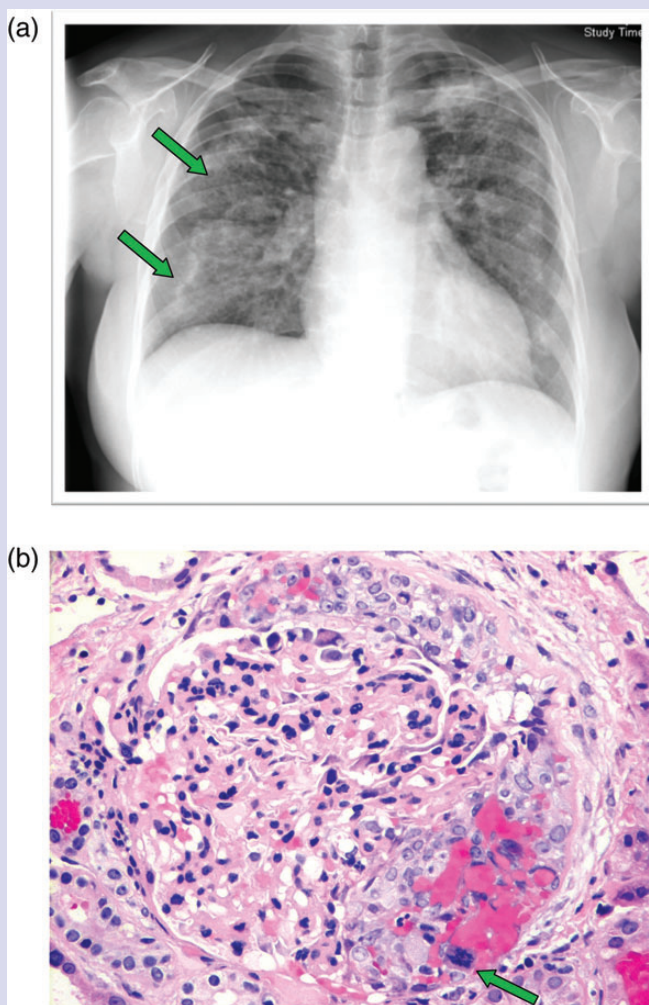
A chest radiograph revealed diffuse interstitial opacities with relative sparing of the periphery consistent with pulmonary haemorrhage (Fig. 1a). This sparing of the peripheries is typical for alveolar haemorrhage and is due to gravity-dependent density gradients. A bronchoscopy with *trans*-bronchial biopsy demonstrated fresh blood consistent with diffuse alveolar haemorrhage, without evidence of infection, granulomas, or capillaritis [1].

A renal biopsy demonstrated pauci-immune necrotising crescentic glomerulonephritis with red fibrinoid necrosis and focal mitotic activity (Fig. 1b).

Pulmonary renal syndrome occurs as the result of inflammation and necrosis of small blood vessels. This syndrome can be induced by agents such as propylthiouracil or by immune-mediated processes such as SLE, IgA nephropathy, Goodpasture syndrome or ANCA-associated vasculitis [2–4]. In this case, a diagnosis of eosinophilic granulomatosis with polyangiitis with MPO antibodies was made. The patient had a partial response to high-dose corticosteroids, plasmapheresis and oral cyclophosphamide, but she was ultimately switched to Rituximab and remains in remission 6 months later [5].

## REFERENCES

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**Figure 1:** (a) Pulmonary haemorrhage with peripheral lung sparing due to density dependent gradients and (b) pauci-immune necrotising crescentic glomerulonephritis with red fibrinoid necrosis (kidney biopsy).