Uraemic lung in severe azotaemia

Sheng-Hsiang Lin,[1,2] Wan-Hsiu Liao,,[3] Shih-Horng Huang[4]

[1]Department of Internal Medicine, New Taipei City Hospital, New Taipei, Taiwan
[2]Department of Respiratory Therapy, Fu-Jen Catholic University, New Taipei, Taiwan
[3]Department of Family Medicine, New Taipei City Hospital, New Taipei City, Taiwan
[4]Department of Surgery, New Taipei City Hospital, New Taipei, Taiwan

Correspondence to
Dr Sheng-Hsiang Lin, linsh01@gmail.com

DESCRIPTION

A 70-year-old man, a case of diabetes mellitus with nephropathy, presented with malaise, poor appetite and progressive shortness of breath for 1 week. Physical examination showed crackles at bilateral lung fields and no oedema of limbs. His blood urea nitrogen (BUN) and serum creatine levels were 245 and 33 mg/dL, respectively. Anaemia (haemoglobin 6.4 g/dL) and hypoalbuminaemia (albumin 2.6 g/dL) were also noticed. The ECG showed a sinus rhythm without significant ST-T wave changes. Chest radiography showed bilateral perihilar pulmonary consolidations with a clear periphery (figure 1A). He was haemodialysed for uraemia with uraemic lung. One week later, the levels of BUN (103 mg/dL) and serum creatine (14.5 mg/dL) decreased and without a significantly negative fluid balance, complete resolution of pulmonary opacities was achieved in the follow-up chest radiography (figure 1B).

Uraemic lung is a severe pulmonary complication observed in patients with uraemia.[1] Besides fluid overload, it could be attributed to miscellaneous mechanisms, such as increased lung vascular permeability and inflammation induced by chemokines and leucocytes.[1 2] It is important to differentiate uraemic lung from other causes of lung oedema. A previous radiology study had shown that more lung oedema in renal failure had central distribution of pulmonary opacities while more lung oedema in heart failure had cephalisation of pulmonary vessels.[3] Likewise, the reported cases of uraemic lung were characterised by perihilar opacities with a clear periphery.[1] Although uraemia related distant organ damage still has a substantial impact on mortality, dialysis remains the most important treatment for a better outcome.[2]

Learning points

- Uraemic lung is related to a variety of causes, including fluid overload, increased lung vascular permeability and inflammation; nonetheless, the diagnosis must be established after the exclusion of pure hydrostatic lung oedema.
- The chest radiographic findings of uraemic lung are characterised by perihilar consolidations with a clear periphery.
- Adequate dialysis is the mainstay of treatment for uraemic lung.

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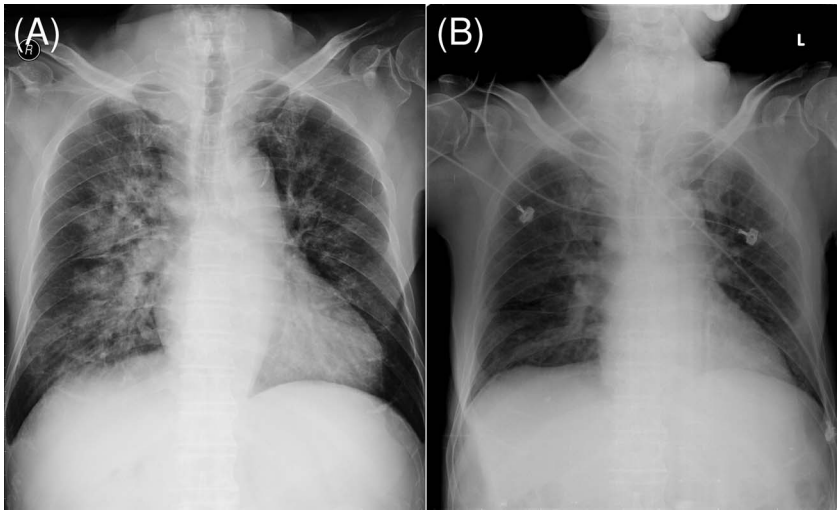

Figure 1 (A) Chest X-ray at arrival showing bilateral perihilar consolidations with right lung predominance. (B) chest X-ray 1 week later showing complete resolution of pulmonary consolidations.

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