IMAGES IN THORAX

Cerebral air embolism during CT-guided lung biopsy

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Received 21 April 2015
Accepted 14 May 2015
Published Online First
29 May 2015

A patient with cirrhosis and hepatocellular carcinoma, on the waiting list for liver transplantation, presented with lung nodule during initial evaluation. A CT-guided core needle lung biopsy under general anaesthesia was performed. Pneumothorax (figure 1) and a large amount of gas within the left ventricle (figure 2) were identified during the procedure. Neurological focal signs (drowsiness, conjugate eye deviation and right hemiparesis) were observed in the anaesthesia-recovery period. A brain CT scan was immediately obtained,

Figure 1 CT-guided lung biopsy of the nodule was performed with a 20-gauge needle and the patient in supine position. A small pneumothorax was already seen in this image.

Figure 2 The repeated CT image showed a large amount of gas within the left ventricle.

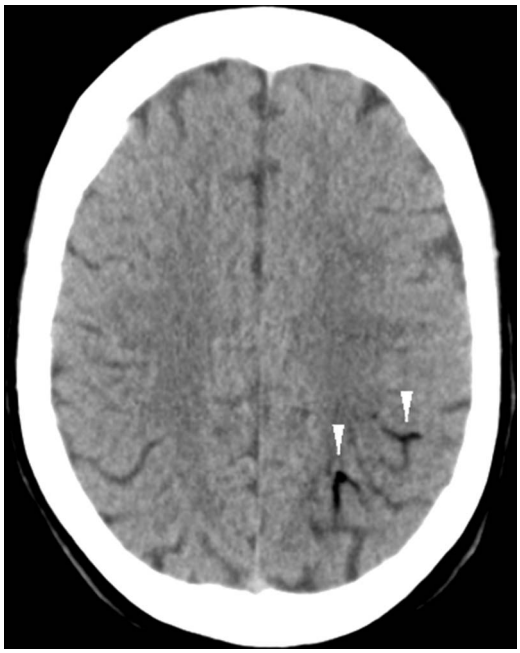

Figure 3 Axial CT of the brain showed gas locules within the left parietal lobe.

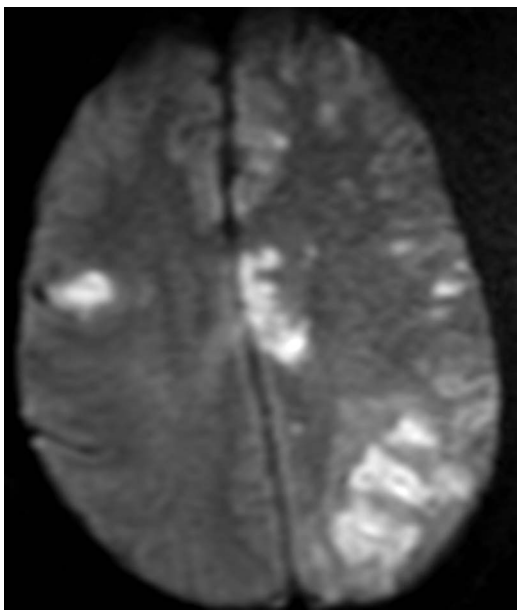

Figure 4 Magnetic resonance image after 5 days revealed the real extension of the embolism. A massive stroke involving both sides of the brain can be seen.

To cite: Rocha RD, Azevedo AA, Falsarella PM, *et al*. *Thorax* 2015;**70**:1099–1100.

showing cerebral air embolism (figure 3). Initial resuscitation and hyperbaric oxygen therapy were performed. Five days later, MRI revealed a massive stroke (figure 4). At 3-month follow-up, the patient recovered motor functions, however, maintained with important cognitive deficits. Systemic air embolism is a rare but potentially life-threatening complication of percutaneous lung biopsy. The incidence ranges from 0.02% to 0.5%.[1–3] Coughing during the procedure, cystic or cavitary lesion, positive pressure ventilation and needle-tip placement through a pulmonary vein are the most common predisposing factors. The management involves high-flow 100% oxygen and early hyperbaric oxygen therapy.

Competing interests None declared.

Provenance and peer review Not commissioned; internally peer reviewed.

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