14. **Krieger J,** Weitzenblum E, Monassier JP, *et al*. Dangerous hypoxaemia during continuous positive airway pressure treatment of obstructive sleep apnoea. *Lancet* 1983;**2**:1429–30.
15. **Piper AJ,** Wang D, Yee BJ, *et al*. Randomised trial of CPAP vs bilevel support in the initial management of patients with obesity hypoventilation syndrome. *Sleep and Biological Rhythms* 2006;**4**(Suppl 1):A11.
16. **Mokhlesi B,** Tulaimat A, Evans AT, *et al*. Impact of adherence with positive airway pressure therapy on hypercapnia in obstructive sleep apnea. *J Clin Sleep Med* 2006;**2**:57–62.
17. **Storre JH,** Seuthe B, Fiechter R, *et al*. Average volume-assured pressure support in obesity hypoventilation: a randomized crossover trial. *Chest* 2006;**130**:815–21.
18. **Guo YF,** Sforza E, Janssens JP. Respiratory patterns during sleep in obesity-hypoventilation patients treated with nocturnal pressure support: a preliminary report. *Chest* 2007;**131**:1090–9.
19. **Subramanian S,** Strohl KP. A management guideline for obesity-hypoventilation syndromes. *Sleep Breath* 1999;**34**:131–8.
20. **Reeves-Hoche MK,** Hudgel DW, Meck R, *et al*. Continuous versus bilevel positive airway pressure for obstructive sleep apnea. *Am J Respir Crit Care Med* 1995;**151**:443–9.
21. **Piper AJ,** Sullivan CE. Effects of short-term NIPPV in the treatment of patients with severe obstructive sleep apnea and hypercapnia. *Chest* 1994;**105**:434–40.
22. **De Miguel Diez J,** De Lucas Ramos P, Perez Parra JJ, *et al*. Analysis of withdrawal from noninvasive mechanical ventilation in patients with obesity-hypoventilation syndrome. Medium term results. *Arch Bronconeumol* 2003;**39**:292–7.
23. **Olson AL,** Zwillich C. The obesity hypoventilation syndrome. *Am J Med* 2005;**118**:948–56.
24. **Kessler R,** Chaouat A, Schinkewitch P, *et al*. The obesity-hypoventilation syndrome revisited: a prospective study of 34 consecutive cases. *Chest* 2001;**120**:369–76.
25. **Mokhlesi B.** Positive airway pressure titration in obesity hypoventilation syndrome: continuous positive airway pressure or bilevel positive airway pressure. *Chest* 2007;**131**:1624–6.

Pulmonary puzzle

Perils of fire eating

CLINICAL PRESENTATION

A 17-year-old man, a non-smoker, presented with a 4-day history of chest pain and dyspnoea. The symptoms had begun immediately after an episode of aspiration, which occurred whilst learning to be a fire eater. The patient was on holiday abroad at the time of the incident and attended the emergency department 3 days after returning home because his symptoms had persisted. There was no previous medical history.

Clinical examination revealed chest wall tenderness and crackles were heard in the right base. Room air blood gas analysis showed an arterial oxygen tension of 10.7 kPa, white blood cell count 13.6×10^9/l, C-reactive protein 131 mg/l and erythrocyte sedimentation rate 37 mm/h. A chest radiograph demonstrated a rounded density in the right middle lobe (fig 1). Treatment with oral prednisolone, co-amoxiclav and nebulised salbutamol was commenced. A high-resolution CT scan of the thorax showed an area of consolidation in the right middle lobe and ground-glass attenuation in the right middle and bilateral lower lobes (fig 2).

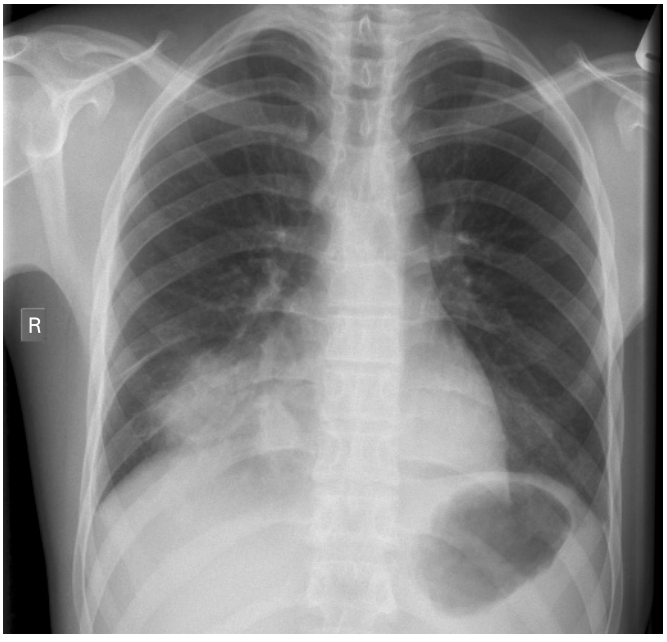

Figure 1 Chest radiograph showing an area of consolidation in the right middle lobe.

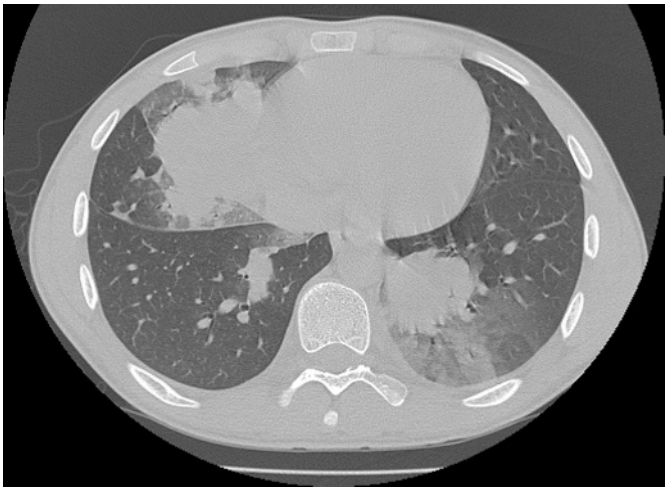

Figure 2 Axial CT image demonstrating air space consolidation of the right middle and lower lobes bilaterally.

QUESTION

What is the diagnosis?

See page 439.

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