# **Images in Thorax**

## Apical lung herniation

## **CASE HISTORY**

A 50-year-old man was referred to us complaining of a swelling in his neck while coughing. He had a 1-year history of a dry cough. He was an ex-smoker with a 10 pack-year history. Examination of his chest at rest was normal, without any cervical lymphadenopathy or signs of superior vena cava obstruction (figure 1A). Examination while coughing revealed a visible swelling on the right side of the neck (figure 1B). Chest radiograph was normal. CT of his chest was performed during inspiration and while performing a Valsalva manoeuvre, which showed an apical lung hernia at the right apex (figure 2A—C).

#### DISCUSSION

Apical lung herniation in adults is rare particularly in the absence of penetrating lung injury or chest wall disease. <sup>1</sup> <sup>2</sup> It is due to a defect in the suprapleural membrane (Sibson's fascia), and small incidental apical parietal pleural defects have been described which may be present prior to the development of a larger defect. <sup>3</sup> <sup>4</sup> Tearing of the fascia and spontaneous hernias have been described in players of wind instruments, weight-lifters and those with a chronic cough, which may have occurred

## **Learning points**

- It is important to consider apical lung hernia in patients who complain of neck swelling and whose clinical examination and chest radiograph are normal.
- ▶ Diagnosis requires examination and CT imaging to be performed during a Valsalva manoeuvre.

in our patient.<sup>2 5</sup> The defect is usually large enough to prevent trapping and incarceration of the lung.<sup>3 5 6</sup> Repair may be necessary in patients with incarceration, symptoms of local compression, for example, dysphagia from oesophageal compression, or for cosmetic purposes.<sup>6 7</sup> The diagnosis can be easily missed both clinically and radiologically if examination is not made during a Valsalva manoeuvre.

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Figure 1 (A) Photograph of the patient at rest. (B) Photograph of the patient while coughing.

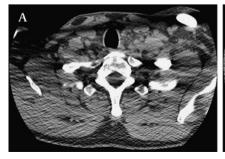






Figure 2 (A) CT scan of the thorax performed during inspiration shows no evidence of lung herniation. (B, C) CT scan of the thorax performed during a Valsalva manoeuvre shows herniated lung at the right apex.

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