

# Pneumothorax and pneumomediastinum in COVID-19

Author: Avinash Aujayeb<sup>A</sup>

## Introduction

We have previously described pneumothorax (PTX) and pneumomediastinum (PM) in COVID-19.<sup>1</sup> Incidence is ~1% and is usually associated with a poor prognosis.

## Methods

With Caldicott approval, all patients with COVID-19 with PTX and PM are flagged to the pleural service for ongoing analysis. Demographics and outcomes are collected.

## Results

Forty-six patients with PTX and PM were identified between 1 March 2020 and 2 January 2022 from a total of 4,506 patients with COVID-19. Mean age was 57.5 years (range 19–91). Thirty-seven (82%) were men. 45 were White, one was South-East Asian. Twenty were ex-smokers, eight were never smokers, one was a current smoker and the smoking status of the rest was unknown. Respiratory comorbidities included COPD (12), asthma (four), combined pulmonary fibrosis and emphysema (one), previous TB (one) and active lung cancer (one). Average estimated frailty score was 2 (range 1–6). Mean body mass index (BMI) was 28 kg/m<sup>2</sup> (range 18.5–46.7), mean height 1.72 m (range 1.55–1.84). Average time to air leaks was 13 days.

Twenty-nine patients had PTX. Sixteen had isolated PTX (including six bilateral) and 22 had PM (four isolated PNM). Eighteen patients had concurrent surgical emphysema. Ten patients were intubated at the time of air leak, 16 were on continuous positive airway pressure or high flow nasal cannula, 13 were on oxygen, and the rest were on air. Thirty-two were managed conservatively. Others had a variety of small, large-bore and subcutaneous drains and one was transferred for extracorporeal membrane oxygenation. There were 10 deaths: one was directly due to PTX in a 91-year-old, Clinical Frailty Score (CFS) of 6 and intercurrent stroke; one was associated with PM, CFS 2 and lung cancer; one was an 85-year-old with CFS 4 and chronic obstructive pulmonary disease (COPD); one was an 82-year-old with CFS 3 on continuous positive-airway pressure; the rest were on mechanical ventilation.

## Conclusion

Inpatient incidence of PTX and PM is still approximately 1%. Survival is improving as overall COVID-19 survival improves (direct mortality from air leak is ~21%), with mortality due to other factors rather than the air leak. ■

## Reference

- 1 Martinelli AW, Ingle T, Newman J *et al.* COVID-19 and pneumothorax: a multicentre retrospective case series. *Eur Respir J* 2020;56:2002697.

Author: <sup>A</sup>Northumbria Healthcare NHS Foundation Trust, Newcastle Upon Tyne, UK