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IMAGES IN EMERGENCY MEDICINE

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Neck and breast swelling after tracheal intubation

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subcutaneous emphysema, tracheal intubation, tracheal injury

1 | PATIENT PRESENTATION

A 90-year-old woman with Parkinson's disease was hospitalized because of acute kidney injury. After admission, she had hospital-acquired COVID-19, bacterial pneumonia, and pulmonary edema and needed tracheal intubation and mechanical ventilation. After administration of antimicrobial and antiviral drugs, her respiratory status improved. However, 1 day after tracheal intubation, her neck and breast gradually started to swell over a few days (**Figure 1**). On physical examination, the crepitus was palpated, corresponding to the area of swelling. A chest x-ray revealed massive subcutaneous emphysema and pneumomediastinum but no pneumothorax (**Figure 2**). As her vital signs were stable, elective surgical tracheotomy was performed to insert a longer tracheotomy tube, which improved her subcutaneous emphysema. Nonetheless, she died due to a catheter-related blood stream infection.

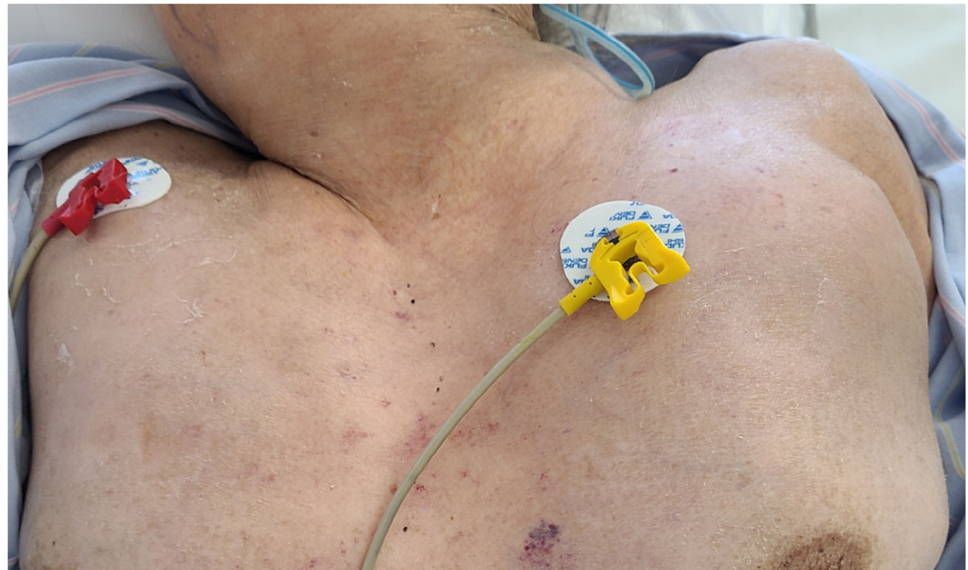

FIGURE 1 The swelling of neck and breast with crepitus after tracheal intubation.

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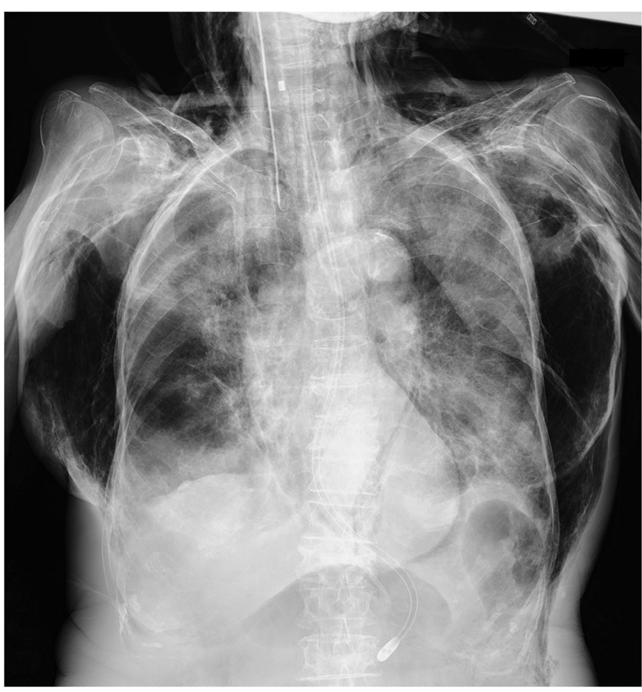

FIGURE 2 Chest radiography showed massive subcutaneous emphysema and pneumomediastinum.

2 | DIAGNOSIS: SUBCUTANEOUS EMPHYSEMA DUE TO TRACHEAL INJURY

Tracheobronchial injury is a rare complication of tracheal intubation due to advancements in medical devices and the development of less invasive procedures.[1] The usual clinical presentations are neck and upper-trunk emphysema and respiratory symptoms.[1] Despite its rarity, the recent COVID-19 pandemic has raised issues regarding severe tracheal complications associated with invasive mechanical ventilation.[2] The risk factors are older age, female sex, corticosteroid use, COVID-19, multiple attempts at tracheal intubation, and inappropriate cuff pressure and cuff size.[1,3] Endoscopy remains the gold standard for diagnosing tracheal tears and assessing their severity.[1] Surgical or endoscopic approaches are often needed if the patient's clinical status deteriorates, especially in patients complicated with compartment syndrome, but a conservative approach can be adopted for asymptomatic or stable patients.[1,4]

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

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None.

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