IMAGING IN INTENSIVE CARE MEDICINE

Sudden appearance of neck and face emphysema during above cuff vocalisation

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A 74-year-old man with community-acquired pneumonia underwent intubation and mechanical ventilation for severe respiratory failure. On day 4, a fiberoptic bronchoscopy guided dilatational tracheostomy

was performed, and a cannula with a subglottic suction port was placed. As the trachea was deep for neck tissue thickness and kyphosis, it was not possible to insert the cannula more than 2 cm over the cuff. The suction port

Fig. 1 CT scan of neck and chest. The *yellow asterisk* indicates the site of the suction port which is on the convexity of the cannula 45 mm from the tip (**a**). *Black arrowheads* show emphysema of the face, neck and mediastinum (**a, d**). *Red arrowheads* highlight emphysema along the pretracheal layer of the deep cervical fascia (**b–d**)

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was in the tracheal lumen. On day 10, the patient was awake and well adapted to the ventilator. As he was frustrated because he was unable to communicate, the above cuff vocalisation technique was attempted. A flow of 2 l/min of air was connected to the cannula suction line to first pass through the subglottic zone and then through the vocal cords, allowing verbalisation. The voice of the patient was barely audible so the air flow was increased to 3 l/min. A few minutes later, subcutaneous emphysema of the neck and face was noted. A chest CT excluded pneumothorax and showed the distribution of the emphysema (Fig. 1). The suction port was outside the tracheal lumen and allowed the gas flow to spread through the surrounding tissues.

Compliance with ethical standards**Conflicts of interest**

All authors declare no conflict of interest.

Informed consent

The patient agreed to the publication of his medical images. Patient's written informed consent was obtained.

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