Ginkgo leaf sign and subcutaneous emphysema

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DESCRIPTION

A 40-year-old man presented with a history of altered sensorium and shortness of breath following deliberate unknown substance consumption. On examination, blood pressure was 100/60 mm Hg, pulse rate 64/min with excessive sweating, hypersalivation, bilateral pin-point pupil and urinary incontinence. Chest examination had excessive secretions with investigations showing red cell cholinesterase level of 143 IU/L (normal range 9572–150 31 IU/L).

The patient was managed in the line of anticholinesterase poisoning with atropine and other supportive care, gradually he required intubation followed by mechanical ventilation for respiratory distress. Six hours after intubation, the patient developed subcutaneous emphysema extending from the neck to the anterior abdominal wall. Chest X-ray was performed to confirm the position of endotracheal tube showed air in subcutaneous tissues around the neck and axilla with radiolucent striations around the individual fibres of bilateral pectoralis major muscles (Ginkgo leaf sign) (figure 1). The patient underwent tracheostomy, and improved over 1 week and discharged.

Figure 1 Chest X-ray showing air in subcutaneous tissues around the neck and axilla with radiolucent striations around the individual fibres of bilateral pectoralis major muscles giving the appearance of the venous system of Ginkgo leaf or 'Ginkgo Leaf sign'.

Subcutaneous emphysema secondary to tracheal injury following endotracheal intubation is rare (0.005%).¹ The patient with extensive subcutaneous emphysema presented with compression symptoms of the airway and venous system. Diagnosis is clinical and done by palpating crepitus in the involved area. Chest radiograph shows air in the soft tissues and air around the pectoralis major create radiolucent striations outlining the individual fibre and gives the appearance of the venous system of Ginkgo leaf known as Ginkgo leaf sign.² Bronchoscopic examination renders valuable information in management of tracheal ruptures. Subcutaneous emphysema is managed conservatively unless there are compression symptoms or extension into mediastinum or pleura which warrants surgical drainage.³

Learning points

- ▶ Tracheal injury is a rare complication of endotracheal intubation and timely intervention can prevent morbidity and mortality.
- ▶ This chest radiograph shows the classical appearance of 'Ginkgo leaf' sign.
- ▶ All cases of subcutaneous emphysema do not require active intervention but bronchoscopy helps in management and follow-up.

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