Neurogenic pulmonary oedema

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DESCRIPTION

A 42-year-old healthy woman was found unresponsive with a peripheral oxygen saturation of 80% after having a thunderclap headache. She had copious pink respiratory secretions. Emergency intubation was performed. Cerebral CT showed subarachnoid haemorrhage from a right internal carotid aneurysm. Thoracic CT revealed extensive bilateral patchy consolidations with air bronchograms, mainly in dependent lung areas (figure 1: coronal plane; figure 2: transverse plane). Her PaO₂/FiO₂ ratio was initially 157 mm Hg and improved significantly over 24 hours. These findings were consistent with acute neurogenic pulmonary oedema (ie, interstitial and alveolar fluid) which results from changes in cardiopulmonary physiology caused by extreme sympathetic discharge after an acute neurological insult. Serial echocardiography showed initially impaired left ventricular function that fully recovered over 2 days. Extubation was successful after 30 hours. The clinical course supports the diagnosis of neurogenic pulmonary oedema. After a complicated recovery (due to vasospasms and hydrocephalus), she was discharged for rehabilitation therapy 1 month postadmission.

Figure 1 Thoracic CT showing extensive bilateral patchy consolidations with air bronchograms, mainly in dependent lung areas, coronal plane.

Figure 2 Thoracic CT (as figure 1), transverse plane.

Learning points

- ▶ Neurogenic pulmonary oedema is a rare but life-threatening complication of a subarachnoid haemorrhage.
- ▶ Rapid intervention with intubation is often warranted to organise diagnostic cerebral and cardiothoracic evaluation.
- ▶ The underlying extreme sympathetic discharge of neurogenic pulmonary oedema is often self-resolving and has a good prognosis.

In conclusion, acute neurogenic pulmonary oedema may accompany subarachnoid haemorrhage. Although relatively rare, clinicians should be aware of this neurogenic pulmonary complication that has a good prognosis with appropriate intervention.

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