Lemierre’s syndrome: a life-threatening sore throat
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DESCRIPTION
A 25-year-old previously healthy Japanese man presented to our emergency department with a 1-day history of dyspnoea, following a sore throat in the previous week. Physical examination revealed acute exudative tonsillitis and right-sided diminished breath sounds. The laboratory analysis revealed a significantly elevated C reactive protein level of 30.67 mg/dL. A CT scan with contrast revealed a thrombophlebitis of the left internal jugular vein, a right-sided empyema and bilateral septic pulmonary emboli (figure 1).

In addition to thoracocentesis, curettage and irrigation of the right-sided thoracic cavity were performed with video-assisted thoracoscopic surgery. Gram staining of the purulent pleural fluid showed Gram-negative rods with abundant polymorphonuclear leukocytes. After the treatment with intravenous antibiotics and oral anticoagulation therapy at the intensive-care unit, the patient gradually recovered. Consequently, both blood and pleural fluid culture results were positive for Fusobacterium nucleatum, and Lemierre’s syndrome was diagnosed.

Lemierre’s syndrome, first reported by Andre Lemierre in 1936, is a rare but potentially life-threatening condition characterised by an acute oropharyngeal infection with secondary thrombophlebitis of the internal jugular vein.1 As observed in the present case, Lemierre’s syndrome usually occurs in adolescent and young adults with a sore throat; and it can spread to the whole body, resulting in septic emboli, empyema, mediastinitis and other infections.2 The most common microorganism that causes Lemierre’s syndrome is Fusobacterium genus, especially F. necrophorum, which is a Gram-negative obligate anaerobe and usually susceptible to penicillin, clindamycin, metronidazole and chloramphenicol.2 Although there is no definite guideline for the treatment of Lemierre’s syndrome, prolonged treatment with intravenous antibiotics is essential. However, anticoagulation therapy depends on the situation.3 Furthermore, surgical procedures are sometimes required.

Learning points
- Lemierre’s syndrome should be considered as a differential diagnosis in young patients with a sore throat.
- It is important to consider further examination such as a contrast enhanced CT scan which includes the neck if Lemierre’s syndrome is suspected.

Figure 1  Axial CT scan with contrast of the neck (left) and the chest (right). A thrombus in the left internal jugular vein (arrow, left), empyema (asterisks) and septic pulmonary emboli (arrow, right) are depicted.