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A huge retropharyngeal air pocket in a 7-month-old infant

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A 7-month-old girl presented with poor dietary intake, a productive cough, rhinorrhea, and fever for over 2 weeks. She was admitted to a local hospital where she was examined for sepsis and received intravenous antibiotics. Over the following 3 days, her condition was stable and the fever subsided; however, on her 4th day in hospital, she developed dyspnea and acute supraglottitis was suspected. Anteroposterior chest radiography (Fig. 1A) and lateral neck radiography (Fig. 1B) did not demonstrate the thumb sign of epiglottitis; instead, a huge, 6.9 × 3.1-cm, retropharyngeal air pocket that threatened the upper airway was discovered. Emergency endotracheal intubation and echo-guided needle aspiration and drainage were performed and a corticosteroid was intravenously administered. Follow-up lateral neck radiography (Fig. 1C) and contrast-enhanced computed tomography (Fig. 1D) demonstrated that the air pocket had been relieved, but a huge, 4.0 × 4.0 × 2.5-cm, retropharyngeal, gas-forming abscess was discovered, which contained an air-fluid mixture. The patient was transferred to a medical center for further evaluation and management. Three days later, a pus culture of the retropharyngeal gas-forming abscess was diagnosed as *Pseudomonas aeruginosa*, which is sensitive to gentamicin, amikacin, ceftazidime, ciprofloxacin, levofloxacin, meropenem, piperacillin/tazobactam, cefpirome, and cefoperazone-sulbactam without any antibiotic resistance.

The use of modern antibiotic therapy has reduced the incidence of retropharyngeal abscesses, but morbidity and mortality

continue because of delayed diagnosis and management or because the patient is immunocompromised. The most common signs and symptoms of childhood retropharyngeal abscess are the following: (1) sore throat, pharyngitis, or tonsillitis (97%); (2) fever (91%); (3) neck pain, swelling, or torticollis (91%); (4) cervical lymphadenitis (87%); (5) dysphagia (85%); and (6) dyspnea or stridor (21%) [1]. In our patient, sudden dyspnea warned of the possibility of a retropharyngeal abscess or another upper airway problem, so emergency radiography was recommended and performed.

Lateral neck radiography was suggestive of a retropharyngeal abscess that included soft tissue swelling and the loss of cervical lordosis. In a child ≤ 15 years old, the presence of a retropharyngeal space from the anteroinferior aspect of C2 that exceeds 7 mm (normal: 2–7 mm) or a retrotracheal space from the anteroinferior aspect of C6 that exceeds 14 mm (normal: 5–14 mm) are suggestive of a mass lesion, such as a neoplasm, cellulitis, abscess, or hematoma [2]. In addition, the presence of gas in the soft tissue, although uncommon, is highly suggestive of a retropharyngeal abscess [1], as seen in our patient (Fig. 1A–C); nevertheless, the presence of such a huge air pocket is still a rare curiosity. Contrast-enhanced computed tomography confirmed the presence of this huge air pocket that originated from a retropharyngeal abscess (Fig. 1D).

Retropharyngeal abscesses in children ≤ 15 years old are usually aerobic/anaerobic polymicrobial infections [1]. *P. aeruginosa* infection has only been reported in the literature on one previous occasion [3]. Therefore, a retropharyngeal abscess that causes a huge air pocket and is positive for *P. aeruginosa* is very rare. Although surgical drainage is the gold standard for treating a retropharyngeal abscess, nonsurgical medical treatment has been recommended for select cases [4]. In our patient, endotracheal intubation and echo-guided needle aspiration and drainage were immediately performed in order to secure the airway. Surgery for this infant would have been a challenge, so she was transferred to

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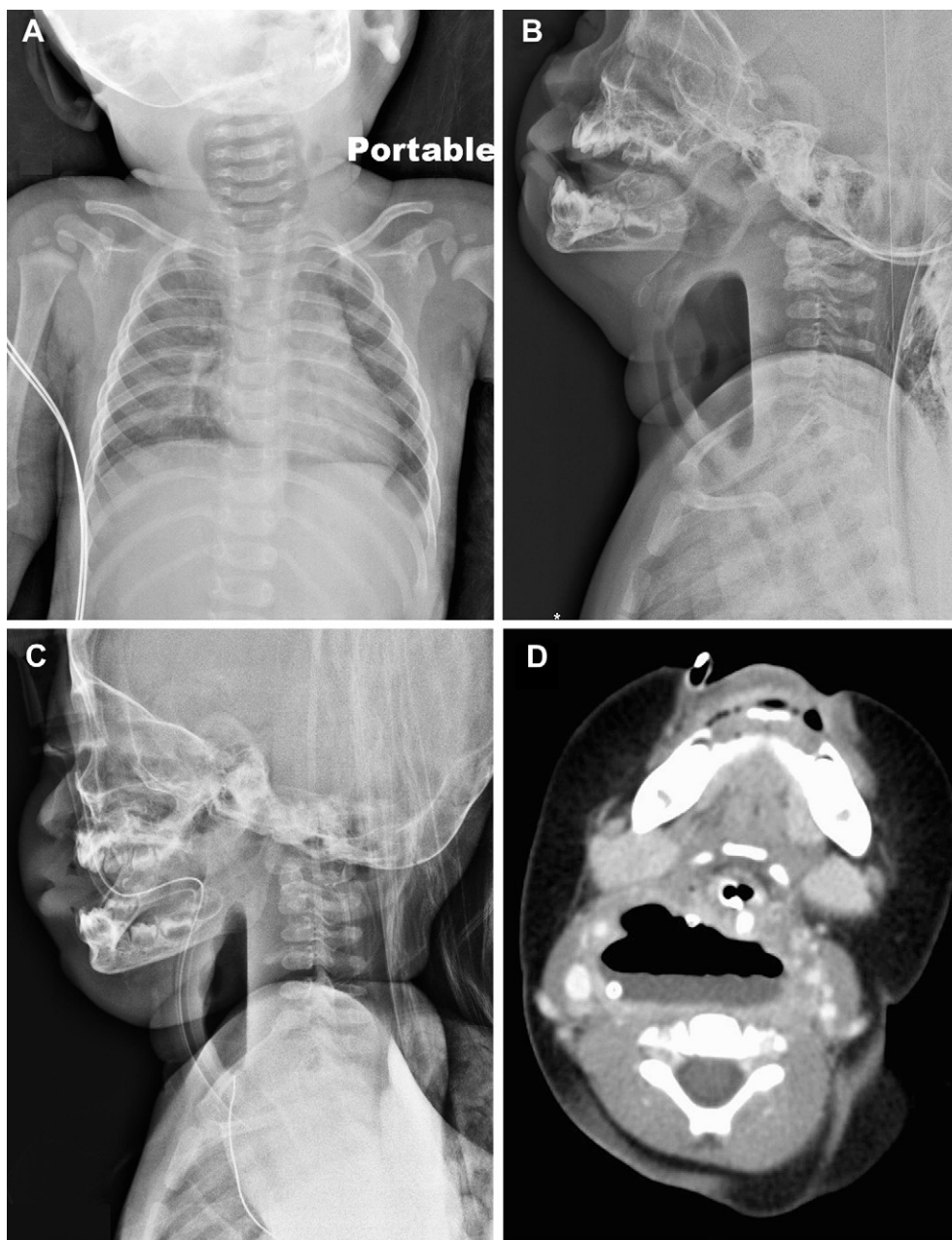


Fig. 1. (A) Predrainage anteroposterior chest radiography. (B) Predrainage lateral neck radiography. (C) Postdrainage lateral neck radiography. (D) Postdrainage contrast-enhanced computed tomography.

another medical center, leaving behind an interesting case history and some unusual radiographs.

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