
Visual Diagnosis in Emergency Medicine



RETROPHARYNGEAL ABSCESS: A SUBTLE PRESENTATION OF A DEEP SPACE NECK INFECTION

Niran Argintaru, MD* and Dave Carr, MD*†

*Division of Emergency Medicine, University of Toronto, Ontario, Canada and †Department of Emergency Medicine, University Health Network, Toronto, Ontario, Canada

Reprint Address: Niran Argintaru, MD, Division of Emergency Medicine, Department of Medicine, University of Toronto, 190 Elizabeth Street, R. Fraser Elliott Bldg. Rm. 3-805 Toronto, ON M5G 2C4, Canada

INTRODUCTION

Infections of the retropharyngeal space occur in both children and adults and make up 6–20% of deep space neck infections (1–3). The retropharyngeal space communicates bilaterally with the parapharyngeal spaces, which contain the carotid sheaths and border the “danger” space posteriorly. The danger space extends from the skull base to the posterior mediastinum. Because of these anatomical characteristics, infections of the retropharyngeal space can be some of the most dangerous deep space neck infections and can spread rapidly to the mediastinum (4). We report a case that highlights the disconnect between the subtlety of clinical presentation and the underlying pathology associated with retropharyngeal infections, while focusing on the importance of associated signs and symptoms.

CASE REPORT

A well-appearing 71-year-old male presented to the emergency department reporting 3 days of progressive dysphagia and odynophagia. He had no fever, shortness of breath, chest pain, or foreign-body sensation. He had no medical history and was not on medications. Six days before he presented to the emergency department

and 3 days before any symptoms, he recalled choking briefly on a fish bone.

The patient was not in any distress. His temperature was 36.7°C, with a room air oxygen saturation of 94%, heart rate of 120 beat/min, and blood pressure of 120/79 mm Hg. There was mild tenderness at the anterior neck with no deformity or crepitus noted. His voice was unchanged. Oropharynx examination was completely unremarkable, but the patient was unable to tolerate any fluids by mouth. Laboratory results were remarkable for an elevated leukocyte count of $27.9 \times 10^9/L$ and a mildly elevated lactate of 2.2 mmol/L.

A lateral soft-tissue neck x-ray study (Figure 1) demonstrated a heterogeneous cystic mass with an air–fluid level. An urgent computed tomography (CT) scan (Figure 2) showed a $15.2 \times 7.0 \times 3.9$ cm retropharyngeal abscess extending from the oropharynx to T3. There were early mediastinal inflammatory changes but no perforation.

The patient underwent an awake fiber optic intubation in the operating room, followed by a tracheotomy. A retropharyngeal abscess was drained through a transcervical incision with drains left in situ and no foreign body was identified intraoperatively. The tracheostomy was decannulated on postoperative day 7 and he was discharged 3 days later.

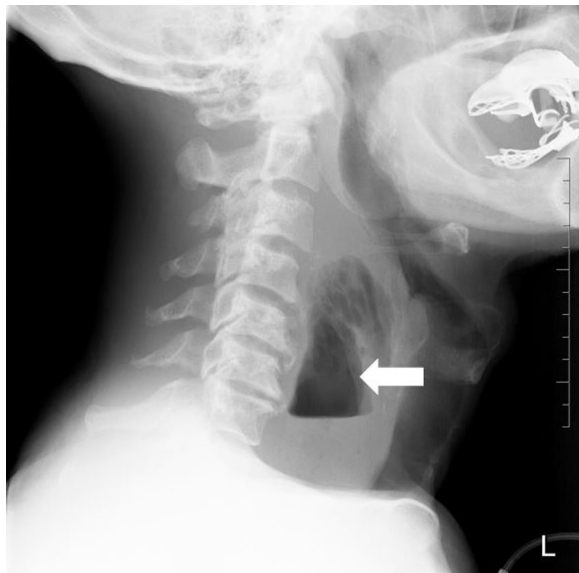


Figure 1. Lateral soft tissue neck x-ray study showing air–fluid level in a large retropharyngeal abscess (arrow).

DISCUSSION

Although more commonly seen in children, adult retropharyngeal infections are high-risk infections often caused by direct trauma from foreign bodies or iatrogenic instrumentation (4). These infections can present with odynophagia, progressive dysphagia, and may have findings indicative of a posterior pharynx infection on examination. Soft-tissues neck x-ray study is a helpful but limited modality to make the diagnosis. X-ray studies, although dramatic in this case, often show only small air pockets, prevertebral tissue thickening, or may be largely normal (5). The sensitivity of x-ray studies in the diagnosis of retropharyngeal abscesses is poorly studied, with one study of 37 patients reporting a sensitivity of 80% for x-ray and 100% for CT (6). Although isolated retropharyngeal infections can



Figure 2. Sagittal cut of computed tomography with a heterogeneous collection within the retropharynx. Gas (arrow) and heterogeneous fluid (arrow head) are noted.

respond to conservative antibiotic therapy, mediastinal invasion or collections require urgent surgical debridement and all retropharyngeal infections require a surgical consult (4).

REFERENCES

1. Wang LF, Kuo WR, Tsai SM, Huang KJ. Characterizations of life-threatening deep cervical space infections: a review of one hundred ninety-six cases. *Am J Otolaryngol* 2003;24:111–7.
2. Huang TT, Liu TC, Chen PR, Tseng FY, Yeh TH, Chen YS. Deep neck infection: analysis of 185 cases. *Head Neck* 2004;26:854–60.
3. Parhiscar A, Har-el G. Deep neck abscess: a retrospective review of 210 cases. *Ann Otol Rhinol Laryngol* 2001;110:1051–4.
4. Reynolds SC, Chow AW. Severe soft tissue infections of the head and neck: a primer for critical care physicians. *Lung* 2009;187:271–9.
5. Hurley MC, Heran MK. Imaging studies for head and neck infections. *Infect Dis Clin North Am* 2007;21:305–53:v–vi.
6. Boucher C, Dorion D, Fisch C. Retropharyngeal abscesses: a clinical and radiologic correlation. *J Otolaryngol* 1999;28:134–7.