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**Case Report**

# An unusual case of recurrent retropharyngeal abscess with incidental oesophageal fistula

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## ABSTRACT

Retropharyngeal abscesses are infrequent in adults but they can lead to potentially fatal complications. These abscesses can lead to respiratory distress or extend to the mediastinum, requiring early diagnosis and aggressive management. We report a case of recurrent retropharyngeal abscess which required two times surgical drainage. An incidental oesophageal fistula found during evaluation which required endoscopic clipping making this case unusual.

**Keywords:** Retropharyngeal abscess, Oesophageal fistula, Deep neck space infection

## INTRODUCTION

A retropharyngeal abscess is an infection in one of the deep neck spaces.[1] Generally, they are found in children because of the abundance of retropharyngeal lymph nodes.[2] In adults, retropharyngeal abscesses are rare and usually occur as a result of local trauma, instrumentation (laryngoscopy, endotracheal intubation, feeding tube placement, etc.), odontogenic infections, or due to extension from adjoining deep neck spaces.[1,3] Retropharyngeal abscesses require prompt diagnosis and early management which frequently involves surgical drainage to achieve the desired results. In this article, we present a case of recurrent retropharyngeal abscess with incidental finding of the oesophageal fistula which required a surgical revisit during the same hospital stay.

## CASE REPORT

A 52-years-old male presented with complaints of sudden onset swelling in front of the neck for 05 days duration which was associated with dysphagia and generalized weakness. His past medical history was unremarkable and he also denied any recent iatrogenic procedure. He also had no history of cough, evening rise of temperature, neck trauma, or having eaten anything hard.

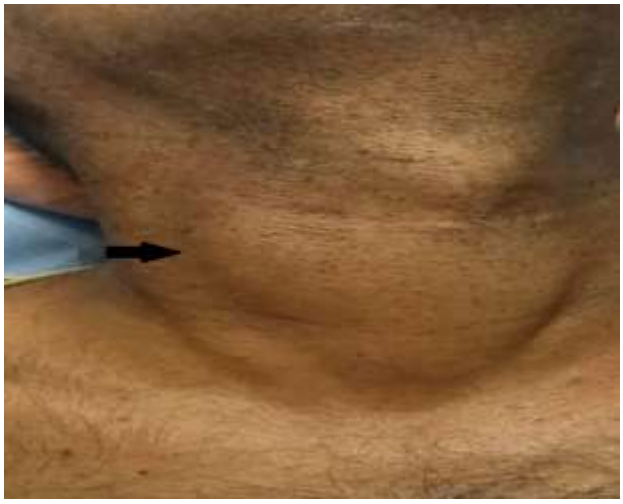

**Figure 1: Swelling right side of neck.**

During clinical evaluation, the patient was found to have a 05×07 cm diffuse swelling in front of the neck more on

the right side, which was soft and non-tender (Figure 1). His video laryngoscopic examination was normal. He also underwent an upper GI endoscopy which was reported normal. On routine blood investigations, the patient was newly diagnosed with type 2 diabetes mellitus and managed with oral hypoglycemic agents.

The patient underwent a CEMRI Neck, which revealed a well-defined collection of 3.6×4.6×6.9 cm on the right infra-hyoid region occupying the retropharyngeal space (Figure 2). Craniocaudally, the lesion was extending from the fourth cervical vertebra to the third thoracic vertebra with eccentric soft tissue edema. Posteriorly lesion was communicating with prevertebral space and anteriorly it was abutting the proximal esophagus with indistinct tissue plane from the esophageal wall. The cervicothoracic spine was normal.

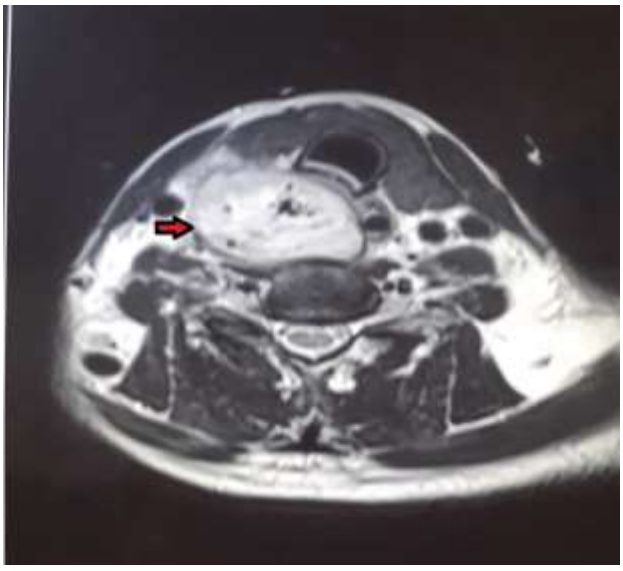

**Figure 2: Well defined collection in right retropharyngeal space.**

**Figure 3: Drainage of abscess through trans-cervical approach.**

The patient was started on empirical broad spectrum injectable antibiotics and was taken up for direct laryngoscopy and emergency incision and drainage of the abscess. The direct laryngoscopic examination was normal and around 40 ml hematogenous foul-smelling discharge was drained from retropharyngeal space through the transcervical incision (Figure 3). A size 14 drain was put for initial 02 days and injectable antibiotics were continued for 05 days. Pus was sent for culture and sensitivity, which however showed no growth.

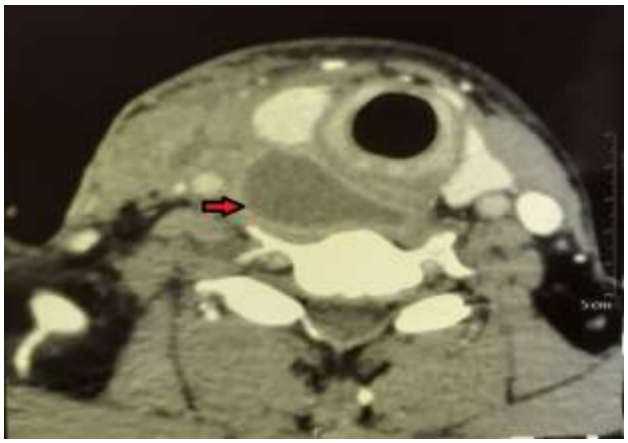

**Figure 4: CECT neck showing re-accumulation of collection in retropharyngeal space.**

**Figure 5: Re-exploration through trans-cervical approach.**

His immediate post-op period was uneventful however on the 16$^{th}$ post-op day patient developed pus discharge from the suture site. CECT neck revealed re-accumulation of collection in the retropharyngeal space in the right infrahyoid region of 2.6×3.6×8.4 cm extending from third cervical vertebra to first thoracic vertebra (Figure 4). The patient again underwent drainage of the abscess through the same incision and around 40 ml pus was drained (Figure 5). A size 14 drain was placed in the neck. In view of recollection, a repeat UGIE was arranged to clarify the underlying cause which revealed a fistulous opening 5 cm below the cricopharyngeal sphincter. A hemoclip was applied in the same sitting and Ryle's tube was placed (Figure 6).

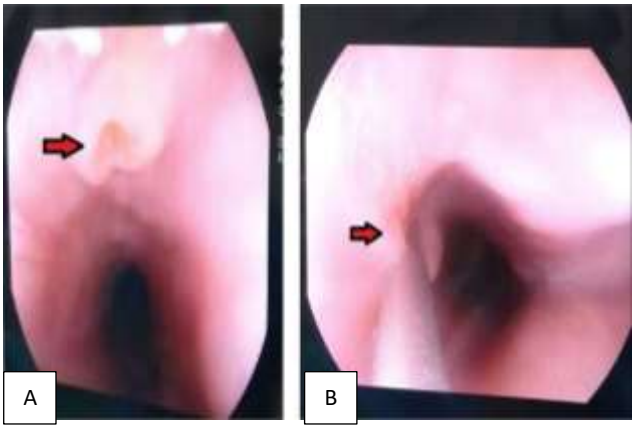


**Figure 6 (A and B): Fistulous opening in cervical oesophagous, clip application.**

The patient was started on Ryle's tube feed. A repeat CECT neck was done after 7 days which showed no collection. The drain was removed and gradually patient was started on oral feeds. The patient was followed up for 6 months and there was no recollection.

## DISCUSSION

Retropharyngeal space is one of the deep neck spaces which is bounded anteriorly by the visceral fascia, posteriorly by alar division of deep cervical fascia, and laterally by carotid sheaths. It extends from the skull base to the tracheal bifurcation at around the second thoracic vertebra where the visceral and alar fascia fuses.[4] It communicates para pharyngeal spaces laterally and danger space posteriorly. Retropharyngeal space is fused in the midline and contains two chains of lymph nodes on each side.[5]

A retropharyngeal abscess more commonly affects children less than six years secondary to inflammation of retropharyngeal lymph nodes following upper respiratory tract infections.[4,6] Though the number of cases of retropharyngeal abscess is decreasing among children due to the advancement of antibiotics. In adults, the common causes of developing this abscess are injuries during instrumental procedures, foreign body ingestion, penetrating injuries, or secondary to vertebral osteomyelitis or Pott's spine.[4,7-9] Diabetes Mellitus or decreased immunity secondary to poor nutrition or other causes predisposes for developing deep neck infections.[4] In our case, the principal etiology was an oesophageal fistula.

Abscesses in this space are generally polymicrobial including both aerobic and anaerobic organisms however, Staphylococcus aureus and Streptococcal species are the most common reported pathogens.[5,10] In our case no organism was cultured.

Although the presenting complaints of these infections are nonspecific, the commonest presenting complaints in adults are fever, sore throat, dysphagia, odynophagia, cervical pain, neck stiffness, drooling of saliva, and dyspnea. The most common signs are posterior pharyngeal wall edema and congestion, cervical lymphadenopathy, and stridor.[4]

The high mortality rate associated with retropharyngeal abscesses is due to its association with airway obstruction, extension to prevertebral space or mediastinum, aspiration pneumonia, epidural abscess, jugular venous thrombosis, necrotizing fasciitis, sepsis, and erosion into the carotid artery.[5,8] In a study done by Ridder et el on 234 adults with deep neck space infections, the mortality rate was 2.6% and the commonest cause of death was sepsis and multiorgan failure.[11]

The clinical diagnosis of retropharyngeal abscess can be difficult as symptoms are variable and nonspecific.[10] Although a lateral radiograph of the neck is helpful in the initial evaluation of retropharyngeal abscess but, CECT of the head and neck is the radiological investigation of choice to confirm the diagnosis and evaluation of spread of infection into adjacent deep neck spaces.[4,12] Carrying out radiological examinations should not delay care and any suspected retropharyngeal abscess should be started on broad-spectrum antibiotics however, surgical drainage is the mainstay of treatment.[2]

In our case, the abscess was drained immediately however it recurred which again required surgical drainage. Finally, an oesophageal fistula was found in upper GI endoscopy which required clipping.

## CONCLUSION

A retropharyngeal abscess is an uncommon but potentially life-threatening condition. Delay in diagnosis and treatment can lead to catastrophic complications. The diagnosis is based on the clinical and radiological pictures and management should involve securing the airway, surgical drainage, proper hydration, and broad-spectrum injectable antibiotics.

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