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(CASE REPORT)

# Retropharyngeal abscess revealing occult upper aerodigestive tract malignancy: Report of two cases

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## Abstract

**Background**: Retropharyngeal abscess (RPA) is a deep neck space infection predominantly encountered in children. In adults, it is usually secondary to pharyngeal trauma, foreign body ingestion, odontogenic infection, or immunocompromised conditions. Exceptionally, it may reveal an underlying malignant tumor of the upper aerodigestive tract.

**Cases Presentation**: We report two unusual cases of retropharyngeal abscess associated with occult malignancy. The first case involved a 45-year-old woman presenting with progressive upper dysphagia for six months following fishbone ingestion, complicated by dysphonia. Clinical examination revealed an inflammatory left laterocervical swelling with hypersalivation. Nasofibroscopy demonstrated posterior orohypopharyngeal bulging associated with left vocal cord paralysis. Cervical computed tomography (CT) confirmed a retropharyngeal abscess. Despite surgical drainage and broad-spectrum intravenous antibiotics, follow-up imaging revealed a superinfected cervical esophageal mass, and histopathological examination confirmed well-differentiated squamous cell carcinoma.

The second case concerned a 27-year-old chronic smoker and alcohol consumer presenting with bilateral cervical swelling, progressive dysphagia evolving to aphagia, dysphonia, and deterioration of general condition. Endoscopic examination showed a hypopharyngeal tumor with anterior laryngeal displacement and left vocal cord paralysis. Cervical CT demonstrated hypopharyngeal wall thickening extending to the upper esophagus with bilateral cervical lymphadenopathy and associated retropharyngeal abscess formation.

**Conclusion**: Retropharyngeal abscess in adults, particularly when associated with chronic symptoms or atypical clinical evolution, should prompt systematic investigation for an underlying malignancy. Early recognition is essential to avoid delayed diagnosis and therapeutic management.

**Keywords:** Retropharyngeal abscess; Deep neck infection; Hypopharyngeal carcinoma; Cervical esophageal carcinoma; Occult malignancy.

## 1. Introduction

Retropharyngeal abscess (RPA) is a potentially life-threatening deep neck infection involving the retropharyngeal space. It is more frequently observed in children because of the presence of retropharyngeal lymph nodes that regress with age. In adults, RPAs are uncommon and usually occur secondary to pharyngeal trauma, foreign body ingestion,

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dental infections, or immunocompromised states. Delayed diagnosis may result in serious complications including airway obstruction, mediastinitis, septicemia, and vascular involvement.

Although infectious etiologies remain predominant, several reports have described RPAs as the initial manifestation of an occult malignancy of the upper aerodigestive tract. Tumor necrosis, mucosal ulceration, and secondary infection may promote bacterial spread into the deep cervical spaces, mimicking a primary infectious process. Because inflammatory findings can obscure the underlying lesion, diagnosis of the malignancy is often delayed.

We report two rare cases of retropharyngeal abscess revealing advanced upper aerodigestive tract malignancies and discuss the diagnostic challenges and therapeutic implications of this unusual presentation.

## 2. Case Reports

### 2.1. Case 1

A 45-year-old woman with no significant medical history presented with progressive upper dysphagia evolving over six months after fishbone ingestion, associated with dysphonia for one month. Clinical examination revealed an inflammatory left laterocervical swelling with hypersalivation. Nasofibroscopy demonstrated posterior orohypopharyngeal bulging associated with left vocal cord paralysis.

Contrast-enhanced cervical computed tomography (CT) confirmed the presence of a retropharyngeal abscess extending to the left cervical region (Figure 1). Surgical drainage combined with triple intravenous antibiotic therapy was initially performed, resulting in transient clinical improvement. However, persistent symptoms prompted repeat imaging, which revealed a locally invasive left posterolateral cervical esophageal mass associated with regional lymphadenopathy (Figure 2). Hypopharyngoscopy and oesophagoscopy with biopsy were subsequently performed, and histopathological examination confirmed a well-differentiated squamous cell carcinoma of the cervical esophagus.

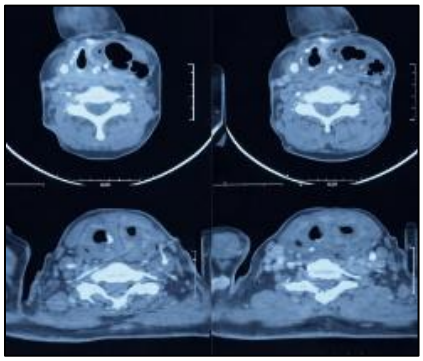

**Figure 1** Axial contrast-enhanced cervical CT scan showing a left laterocervical abscess extending into the retropharyngeal space

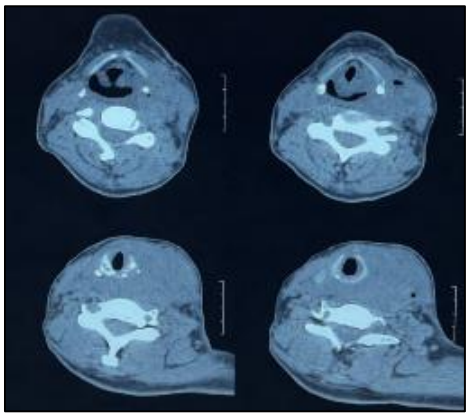

**Figure 2** Follow-up cervical CT scan demonstrating a locally invasive left posterolateral cervical mass associated with regional lymphadenopathy

### 2.2. Case 2

A 27-year-old man with chronic tobacco and alcohol consumption presented with bilateral cervical swelling evolving for two months, associated with progressive dysphagia progressing to aphagia, dysphonia, and deterioration of general condition. Flexible nasofibroscopy revealed a hypopharyngeal tumor predominantly involving the left side, associated with anterior displacement of the larynx and left vocal cord paralysis (Figure 3).

Cervical CT imaging demonstrated circumferential hypopharyngeal wall thickening extending to the upper esophagus, bilateral cervical lymphadenopathy, and a retropharyngeal abscess predominantly on the left side (Figure 4). Endoscopic evaluation confirmed an advanced hypopharyngeal malignancy.

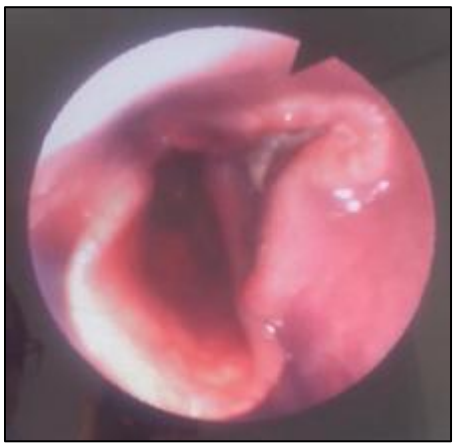

**Figure 3** Endoscopic view showing a predominantly left-sided hypopharyngeal tumor with anterior laryngeal displacement

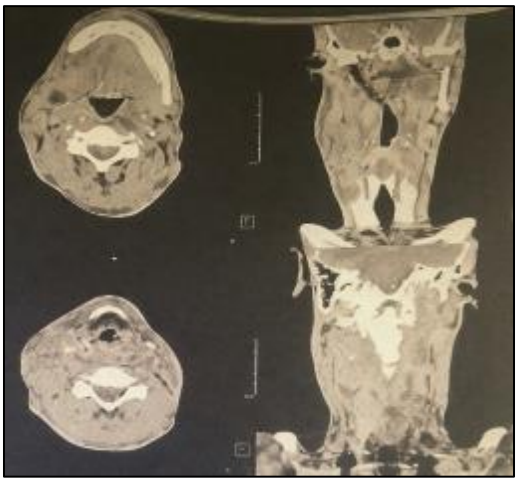

**Figure 4** Axial and coronal cervical CT images demonstrating hypopharyngeal wall thickening extending to the upper esophagus, bilateral cervical lymphadenopathy, and associated retropharyngeal abscess formation predominantly on the left side

## 3. Discussion

Retropharyngeal abscesses are uncommon in adults and generally occur in association with predisposing conditions such as pharyngeal trauma, foreign body ingestion, odontogenic infection, diabetes mellitus, smoking, or immunosuppression [1]. Nevertheless, the occurrence of retropharyngeal abscess as the presenting manifestation of an upper aerodigestive tract malignancy remains rare but increasingly recognized in the literature [2,3].

Our two observations illustrate this unusual clinical presentation. In both patients, the disease course was characterized by progressive dysphagia, dysphonia, and persistent cervical symptoms, findings that should raise suspicion for an underlying neoplastic process rather than a purely infectious condition. Wang et al. reported that deep neck infections may represent the initial manifestation of head and neck cancer in approximately 2–3% of cases, with most tumors diagnosed at an advanced stage, thereby contributing to delayed therapeutic management and poorer prognosis [2]. Similarly, Hung et al. estimated the incidence of head and neck cancers revealed by deep neck infections to range between 1% and 5%, particularly among patients with significant tobacco and alcohol exposure [3].

Several pathophysiological mechanisms may explain the association between retropharyngeal abscess and malignancy. Tumor necrosis and mucosal ulceration facilitate bacterial colonization and dissemination into the deep cervical spaces. Furthermore, secondary infection of necrotic metastatic lymph nodes may contribute to abscess formation. Local tumor invasion may also compromise tissue barriers and regional immune defenses, promoting the extension of infection into adjacent anatomical spaces [2,3]. Similar presentations involving hypopharyngeal or cervical esophageal carcinomas complicated by retropharyngeal abscess have been sporadically described in the literature [4].

From a clinical perspective, several warning signs should prompt investigation for an occult malignancy, including chronic or progressive dysphagia, aphagia, dysphonia, vocal cord paralysis, constitutional symptoms, persistent cervical lymphadenopathy, and major risk factors such as smoking and alcohol consumption. These features were observed in both of our patients, highlighting the importance of maintaining a high index of suspicion in adult patients presenting with atypical or prolonged deep neck infections.

Contrast-enhanced cervical computed tomography remains the cornerstone imaging modality for the diagnosis of retropharyngeal abscesses and assessment of their extension. In addition to identifying fluid collections, CT imaging may reveal indirect signs suggestive of malignancy, such as asymmetric wall thickening, infiltrative masses, cartilage invasion, or necrotic lymphadenopathy. However, acute inflammatory changes may initially obscure the underlying tumor, which explains the necessity for repeat imaging after adequate control of the infectious process, as demonstrated in our first case [1,5].

Initial management is based on airway evaluation, broad-spectrum intravenous antibiotic therapy, and surgical drainage when indicated. Nevertheless, treatment should not be limited to infection control alone. In adult patients, particularly in the presence of atypical clinical features or incomplete resolution, comprehensive etiological assessment including endoscopic exploration and histopathological biopsy is mandatory to exclude an underlying malignancy [5].

Recent studies have reinforced the close relationship between deep neck infections and occult head and neck cancers. Persistent, recurrent, or unusually extensive cervical infections in adults should therefore be considered potential indicators of an underlying neoplastic process [6–8]. The presence of associated pharyngeal wall thickening, necrotic cervical lymphadenopathy, cranial nerve involvement, or persistent symptoms despite appropriate antimicrobial therapy should particularly alert clinicians to this possibility. Early identification of the underlying tumor is essential, as delayed diagnosis frequently results in advanced-stage disease and significantly worsens oncological outcomes.

## 4. Conclusion

Retropharyngeal abscess in adults is an uncommon condition that may exceptionally reveal an underlying upper aerodigestive tract malignancy. Persistent symptoms, atypical clinical evolution, cervical lymphadenopathy, or associated risk factors should prompt comprehensive etiological assessment including repeat imaging, endoscopic evaluation, and biopsy. Early recognition of occult malignancy is essential to avoid delayed diagnosis and optimize oncological management.

## Compliance with ethical standards

### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

### *Statement of informed consent*

"Informed consent was obtained from all individual participants included in the study."

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