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CASE REPORT

Retropharyngeal Abscess with a Missed Migrating Foreign Body: A Case Report

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ABSTRAK

Abses retrofaring jarang berlaku dalam kalangan orang dewasa dan boleh menyebabkan komplikasi yang teruk. Kami membentangkan satu kes melibatkan seorang pesakit warga asing yang mengalami abses retrofaring yang mengancam nyawa, dengan halangan berbahasa dan tulang ayam yang bergerak yang tidak dapat dikesan. Seorang lelaki warga asing berusia 42 tahun dengan status komorbid yang tidak diketahui, mengalami halangan saluran pernafasan atas dalam tempoh satu hari dan bengkak pada leher selama 5 hari. Pengambilan sejarah pesakit sukar dilakukan disebabkan halangan bahasa. Rakan pesakit memaklumkan bahawa pesakit mengalami sakit tekak, disfagia dan odinofagia sejak seminggu lalu. Pemeriksaan menunjukkan nafas bunyi bifasa dan bengkak depan leher secara menyeluruh bersaiz 5x5 cm, kemerahan dan hangat. Skop fleksibel menunjukkan saluran pernafasan yang bengkak. Ujian darah menunjukkan jangkitan sepsis. Pesakit telah diintubasi dan imbasan tomografi berkomputer (CT) ke atas leher yang dibuat segera menunjukkan pengumpulan cecair retrofaring yang merebak. Pesakit menjalani pembedahan mengalirkan abses tetapi keadaannya tidak bertambah baik. Imbasan CT ulangan menunjukkan benda asing hiperdensiti dan linear yang telah bergerak ke paras C2/C3 dan berjaya dikeluarkan. Abses retrofaring ialah keadaan yang mengancam nyawa dengan benda asing sebagai faktor penyebab yang jarang berlaku pada orang dewasa dan sangat mencabar untuk dikesan, terutamanya apabila wujud halangan bahasa. Pengambilan sejarah yang teliti dan dibantu dengan keadah pengimejan untuk mengenal pasti punca jangkitan, boleh membawa kepada diagnosis dan rawatan yang tepat.
Kata kunci: *Abses retrofaring; benda asing; nafas bunyi; perforasi esofagus*

ABSTRACT

Retropharyngeal abscess is rare in adults that can lead to severe complications. We presented the case of a foreign patient developed a life-threatening retropharyngeal abscess, complicated with language barriers and a missed migrating chicken bone. A 42-year-old foreigner man with unknown comorbid

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presented with upper airway obstruction in a day, and neck swelling for 5 days. History taking was difficult due to a language barrier. The patient's friend claims he experiencing sore throat, dysphagia and odynophagia for the preceding week. Examination showed biphasic stridor and diffused anterior neck swelling 5x5 cm, erythematous and warm. Flexible scope noted oedematous airway. Blood investigations showed sepsis. Patient intubated and urgent computed tomograpgy (CT) scan of the neck reported as extensive retropharyngeal collection. He underwent surgical drainage but the condition did not improve. Repeated CT scan revealed a migrating linear hyperdense foreign body at the C2/C3 level which was removed succesfully. Retropharyngeal abscess is a life-threatening condition with foreign body as a causative factor is uncommon in adults and can be challenging to detect, especially in the context of language barriers, thorough history taking, aided by imaging to locate the source of infection, led to the correct diagnosis and treatment.

Keywords: Foreign bodies; oesophageal perforation; retropharyngeal abscess; stridor

INTRODUCTION

A retropharyngeal abscess is characterised as an abscess located in the space between the buccopharyngeal fascia and the prevertebral fascia (Sellami et al. 2023). Owing to its anatomical position and the potential for upper airway obstruction, this infection poses a serious and life-threatening risk. The retropharyngeal space extends from the base of the skull to the mediastinum which allows infections to spread easily along its length, contributing to the severity of the condition (Mnatsakanian et al. 2024). These abscesses predominantly affect the paediatric but can also occur in adults, as demonstrated in our case (Bakir et al. 2012). In the adult population, the risk factors include pharyngeal mucosal trauma, odontogenic causes and tuberculosis of the spine (Awobajo et al. 2021). It also can arise from local trauma, such as swallowing a foreign object like a chicken bone, during medical procedures like laryngoscopy, endotracheal intubation, or feeding tube insertion (Singh et al. 2003). The rarity of its occurrence among adult patient and the presence of a foreign body as a causative factor, can be challenging to detect, especially in patients with language barriers or when the history of foreign body ingestion is not readily available or clear in between the clinician and the patient during history taking (Singh et al. 2003). The initial symptoms can be nonspecific, and the progression to more severe manifestations can be rapid and the diversity in its presentation poses a diagnostic challenge for otorhinolaryngology (ORL) surgeons when dealing with retropharyngeal abscesses with missed migrating foreign body ingestion. This case report aimed to highlight the clinical presentation, diagnostic challenges, and management of an adult patient with a retropharyngeal abscess secondary to the ingestion of a chicken bone. The discussion underscored the importance of early recognition of causative disease and prompt investigation and intervention for this condition.

CASE REPORT

A 42-year-old foreign man with limited proficiency in the local and an unknown medical illness, presented with noisy breathing and shortness of breath for one day. He had anterior neck swelling which gradually increased in size for 5 days prior. As the patient has a limited understanding of the local language, the history was interpreted by his friend who also spoke limited English language. Additionally, the patient experienced sore throat, odynophagia, dysphagia and reduced oral intake one week earlier. The patient denied any laryngeal trauma or any foreign body ingestion prior to the symptom.

Clinically, the patient exhibited biphasic stridor and he was tachypnoeic. Upon neck examination, a diffuse erythematous anterior swelling measuring approximately 5 x 5 cm was observed. The swelling appeared firm, warm and

tender. The overlying skin was erythematous and the neck appeared rigid (Figure 1). Intraoral examination revealed an erythematous oropharynx and medialisation of the lateral pharyngeal wall. There was no trismus and the floor of the mouth was not raised. Flexible nasopharyngolaryngoscopy showed oedematous supraglottic structures with a tubular epiglottis, obstructing the airway. Visualised vocal cords were mobile bilaterally. The patient was urgently taken to the operating theatre for elective intubation to secure the airway.

The patient's laboratory findings indicated sepsis, evidenced by leucocytosis and thrombocytopenia from the full blood count result. Arterial blood gas analysis demonstrated metabolic acidosis. Computed tomography (CT) scan of the neck was performed and revealed an extensive multiloculated gas-containing collection in the retropharyngeal region extending from the level of the oropharynx inferiorly into the posterior mediastinum at the prevertebral level, measuring 1.5 x 5.8 x 20.9 cm (Figure 2a & 2b).

Intravenous antibiotic was commenced and the patient underwent emergency incision and drainage via transcervical approach, along with direct laryngoscopy under general anaesthesia (GA). Intraoperatively, approximately 20cc of pus

FIGURE 1: There was diffuse swelling with loss of thyroid cartilage prominence

was drained. Despite the drainage of the abscess and intravenous antibiotic, the patient did not demonstrate significant clinical improvement with persistent temperature spikes and non-resolving leucocytosis.

A repeated CT scan of the neck on postoperative day 8 surprisingly revealed a linear hyperdense foreign body at the C2/C3 level as depicted in Figure 3, with a smaller

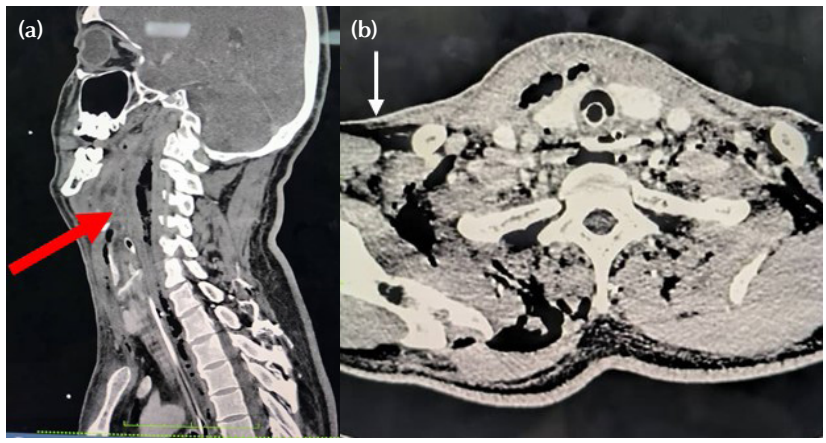

FIGURE 2: (a) Initial computed tomograpgy neck showed extensive multiloculated gas containing collection seen at retropharyngeal region (red arrow) from the level of oropharynx in sagittal section; (b) and right anterior cervical space (white arrow) in axial section

retropharyngeal collection, which was not identified in the initial CT scan. The initial CT scan showed an extensive multiloculated gas-containing collection in the retropharyngeal region extending from the level of the oropharynx inferiorly into the posterior mediastinum at the prevertebral level.

We proceeded with emergency neck exploration and esophagoscopy under general anaesthesia. Intraoperatively, a foreign body (chicken bone) measuring 3 cm was discovered in the right-sided retropharyngeal space at the level of the mid-thyroid cartilage, as shown in Figure 4.

Esophagoscopy revealed a healed perforation located 17 cm from the upper incisor. Following the removal of the foreign body, the patient's condition began to improve. He had no sign of mediastinitis He was discharged well on day 10 post-operation with advice for good diabetic control and wound care at the nearest healthcare facility.

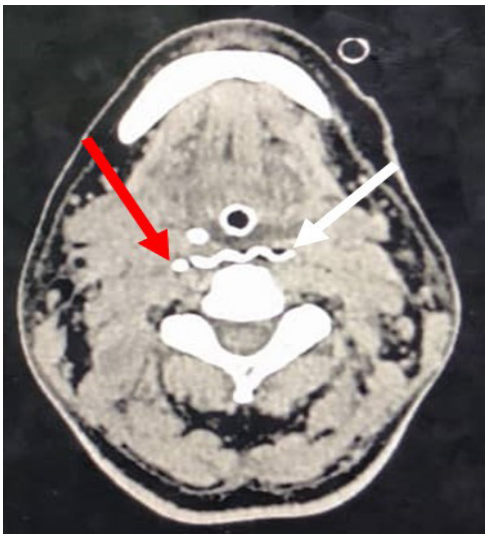

FIGURE 3: A repeated CT neck on postoperative day 4 showed a linear hyperdense foreign body (indicated by a red arrow) at the C2/C3 level, located just lateral to the corrugated drain (white arrow)

FIGURE 4: A solid chicken bone measuring 3 cm found at right sided retropharyngeal space

DISCUSSION

Oropharyngeal mucosal trauma and foreign body ingestion are significant risk factors in adults. The ingestion of sharp foreign bodies, such as fish bones and chicken bones can lead to mucosal injury, creating a portal of entry for infection. The incidence of retropharyngeal abscesses caused by foreign bodies in adults is relatively rare compared to other aetiologies. It has reported that foreign body ingestion accounts for approximately 2% to 8% of retropharyngeal abscess cases in adults (Bakir et al. 2012). The pathophysiology involves direct mucosal injury, leading to secondary infection and abscess formation. Foreign bodies can migrate, exacerbating the risk of infection and complicating the diagnosis, especially when initial imaging fails to detect the foreign object.

This case highlights the critical importance of effective communication in healthcare, especially when dealing with patients with language barriers. Obtaining a thorough clinical history prior to any investigation is vital to help identify the possible source of infection like retropharyngeal abscesses. In our situation, where a foreign patient denied ingesting a foreign body, clear communication is important to ensure

accurate clinical information is collected. Using a professional interpreter or leveraging the latest technology, such as online language translators' applications are viable options in dealing with foreigner patient. This process is crucial, hereby minimising delays in treatment and reducing the risk of complications.

CT imaging plays an important role in diagnosing retropharyngeal abscesses and planning for treatment, but it can be challenging when a foreign body is suspected. Factors like patient movement, swallowing motion artifacts, and thick slices in CT scans can reduce its sensitivity in detecting foreign bodies (Grassi et al. 2015). Foreign bodies such as partially ossified chicken bones, are often misdiagnosed as normal anatomical neck structures such as partially ossified cartilage structures in the neck (Castan Senar et al. 2017). Additionally, contrast agents can obscure foreign bodies, as they may resemble blood vessels (Goh et al. 2006). The experience and attentiveness of the interpreter are crucial, as they significantly affect foreign body detection (Grassi et al. 2015). If initial contrast-enhanced CT scans are negative despite strong suspicion of a foreign body, a repeat scan is necessary. Using thinner slices (3 mm or 1.5 mm) and multiplanar images improves diagnostic accuracy (Bathla et al. 2011). This case emphasises the importance of integrating clinical findings with imaging results to ensure comprehensive evaluation and appropriate intervention.

Several studies have compared the success rates of transoral and transcervical approaches, with variable findings. While some studies suggest comparable success rates between the two approaches, others have reported higher success rates with the transcervical approach, especially for extensive or complex abscesses. The choice of approach should be tailored to the individual patient's anatomy, the location and extent of the abscess, and the surgeon's expertise. However, prompt recognition, immediate treatment and management, with less complication will lead to a good prognosis (Salahuddin et al. 2023)

CONCLUSION

Retropharyngeal abscess is a rare and life-threatening condition, managing in adults requires a thorough understanding of potential aetiologies, including uncommon factors like foreign body ingestion. Effective communication to get thorough clinical history is important, particularly when language barriers exist, and can be tackled by utilising a professional interpreter or online language translator application as one of the options to ensure accurate diagnosis and prompt treatment initiation. Advanced imaging techniques such as CT play a critical role in guiding surgical interventions by accurately identifying abscess locations and able to locate the causative cause like foreign body and assessing complications. The choice between transoral and transcervical approaches should be tailored to individual patient's condition and abscess complexity. Early recognition and intervention are crucial for achieving positive outcomes and minimising risks associated with this potentially life-threatening condition.

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