ABSTRACT

Objective: Present an unusual case of a large penetrating plastic foreign body in the retropharynx and demonstrate how CT imaging was used to guide diagnosis and surgical exploration.

Study Design: Case study

Methods: The pertinent history and physical examination, representative radiographic images, surgical technique and intra-operative findings are presented.

Results: A 27 year old male was evaluated after he reported ingesting a toothbrush. Physical exam was remarkable only for left oropharyngeal fullness, with no evidence of mucosal violation. Plain film radiographs were suspicious for retropharyngeal fullness and air but were negative for evidence of foreign body, pneumomediastinum or subcutaneous emphysema. CT scan revealed an 11cm foreign body in the retropharyngeal space that was surgically removed through an intraoral approach.

Conclusion: Accurate and timely diagnosis and treatment for a suspected retropharyngeal foreign body is critical for prevention of potentially fatal complications. The absence of radiopaque foreign bodies on plain film radiographs warrants further investigation with CT imaging when occult disease is clinically suspec.

INTRODUCTION

The retropharyngeal space is a potential space of the deep neck. It is located posterior to the pharynx and extends from the skull base to the mediastinum at the level of the carina. The space is bounded anteriorly by the pharynx, trachea, and esophagus and posteriorly by the alar fascia. The lateral boundaries of the retropharyngeal space are defined by the carotid sheaths. The close proximity of the retropharyngeal space to the other potential spaces of the deep neck (the danger space, the prevertebral space and the parapharyngeal space) allows for the spread of infection between the investing cervical compartments of the neck and into the mediastinum. The complications of such deep neck infections are potentially fatal and include airway compromise, jugular vein thrombosis, carotid rupture, spinal cord injury, necrotizing fasciitis, mediastinitis, and sepsis. Penetrating trauma is a well known risk factor preceding infection of the retropharyngeal space. In this case report, we present an occult foreign body of the retropharynx, undetectable on plain film radiography but identified on CT scan.

CASE REPORT

A 27 year old male with significant psychiatric history presented to the emergency room with 24 hours of odynophagia, dysphagia, and left neck pain. The patient was transferred to our emergency department from an in-patient psychiatric facility and he reported forceful impalement of a toothbrush in an attempt to cause bodily harm. Physical examination revealed a well-appearing man in no respiratory distress with no trismus, voice change, or shortness of breath. Flexible nasopharyngoscopy showed mild left oropharyngeal bulge without gross evidence of mucosal violation or presence of foreign body. Routine PA and lateral neck x-ray films were negative for the presence of a radiopaque foreign body, though the lateral film was suspicious for retropharyngeal fullness and prevertebral air (Fig 1, 2). Neck computed tomography (CT) scan revealed an 11 cm foreign body wholly contained within the retropharynx, with the end of the object adjacent to the left thyroid gland (Fig 3, 4).

Further questioning revealed that the patient had filed the working end of a toothbrush to create a sharp spear-like instrument with which he attempted suicide. After psychiatric evaluation determined competency, the patient was immediately taken for surgical exploration and an 11 cm plastic toothbrush handle was removed from the retropharynx by intraoral approach (Fig 5, 6). There was minimal intraoperative bleeding. The patient’s postoperative course was uneventful, and the patient was transferred back to the psychiatric facility on postoperative day 3.

DISCUSSION

Penetrating trauma is a well known risk factor for infection of the retropharyngeal space. Lacerations can result from an array of insults, including ingestion of sharp objects such as fish and chicken bones, blunt trauma with a sharp object in the mouth, and iatrogenic instrumentation during procedures such as laryngoscopy, intubation, or oral injections. Retropharyngeal infection often presents with constitutional symptoms, as well as odynophagia, neck pain, and limited neck mobility on physical examination. However, retropharyngeal pathology may also present insidiously and in those patients with a suspicious history despite well appearance, any complaint of dysphagia, voice change, or shortness of breath warrants immediate further investigation.

When clinical suspicion for an impacted foreign body remains high despite negative plain films, CT imaging can be used to detect otherwise occult plastic foreign bodies in the retropharynx and guide surgical exploration. When clinical suspicion for an impacted foreign body remains high despite negative plain films, CT imaging can be used to detect otherwise occult plastic foreign bodies in the retropharynx and guide surgical exploration.

CONCLUSIONS

Timely diagnosis and treatment for retropharyngeal foreign body is critical for prevention of complications such as retropharyngeal abscess, mediastinitis, airway obstruction, sepsis and death. Clinical suspicion prompted by a thorough history and physical exam should not be underestimated when presented with the possibility of occult disease. When plain film radiographs fail to corroborate clinical findings, CT imaging should be employed to rule out radiolucent foreign bodies and guide both management and surgical exploration.

REFERENCES


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