How-to-do-it

Thoracoscopic drainage of and foreign body removal from a posterior mediastinal abscess

Ben Davies*, Edward Black, Roger Vaughan

Department of Cardiothoracic Surgery, Chesterman Wing, Northern General Hospital, Herries Road, Sheffield S5 7AU, UK

Received 18 November 2003; received in revised form 17 December 2003; accepted 22 December 2003

Abstract

We describe the thoracoscopic management of mediastinal sepsis and foreign body associated with a cervical oesophageal perforation. Following initially successful conservative management, the patient’s condition worsened and we undertook surgical exploration where the abscess was drained and a fragment of china recovered.

© 2004 Elsevier B.V. All rights reserved.

Keywords: Mediastinitis; Sepsis; Oesophageal perforation; Abscess

1. Introduction

A 54-year old woman with a history of well-controlled schizophrenia presented to her general practitioner with a 3-week history of persistent left-sided neck swelling and dysphagia. She was referred to the local ENT department.

On further questioning it emerged she had well-established pica, regularly swallowing fragments of china, bone or high-density plastic. A barium swallow showed a subtle oesophageal perforation at C5/6. Intravenous antibiotics were commenced, oral intake restricted and supplemental nutrition provided via a nasogastric tube. Contrast studies after 10 days showed the defect to have resolved with no evidence of further contamination. At this point she was discharged home.

She then re-attended the local emergency department having ingested a china cup with malaise, recurrent left-sided neck swelling, dysphagia and globus pharyngeus. On examination she was pyrexial with a firm, tender, round, swelling emerging from the lateral aspect of the left sternocleidomastoid muscle. Blood tests showed a neutrophilia with normal clotting and renal function. Contrast-enhanced CT was performed, revealing a retropharyngeal abscess, a foreign body together with a well-defined, loculated posterior mediastinal abscess in communication with the above. She was referred to the regional thoracic surgery service with a view to deal with all three pathologies (Fig. 1).

A grumbling sepsis persisted, intravenous vancomycin and imipenem were commenced. She remained haemodynamically stable, with neither airway/respiratory compromise nor neurological deficit.

Video-assisted thoracoscopic surgery exploration of the right chest was performed via ports in the sixth intercostal space in the mid-axillary line together with one sited posteriorly in the same line. After the lung was dissected off the chest wall, the abscess was confirmed by test-aspiration before draining it under direct vision. The cavity was then explored and a fragment of china was removed. A single drain was left in the abscess cavity. (Fig. 2)

Post-operative progress was smooth. The drain was removed on day 6 and following a further normal contrast study, she was allowed to resume oral intake and discharged home on the eighth post-operative day. Six weeks later she ate and drank normally and had made positive changes to her behaviour following a psychiatric review.

2. Comment

Management of oesophageal perforations and descending necrotising mediastinitis is controversial irrespective of cause and accompanied by a high mortality rate.
This figure has changed little despite contemporary antibiotics and surgical practice. Classical signs such as chest pain, pyrexia, surgical emphysema, pneumothorax or pleural effusion are often absent in the early stages during which secretions and flora from the aerodigestive tract access the mediastinum and track easily along the loose planes of areolar tissue surrounding the oesophagus [2].

Prognosis for cervical oesophageal perforations is better than for other sites, but can lead to mediastinitis and eventual rupture into the pleural cavities. Therapeutic options include conservative management [3] and a variety of radiologically guided, thoracoscopic and open techniques aiming to remove the source of sepsis and manage the oesophagus.

Thoracoscopic techniques are firmly established in the thoracic surgeon’s armamentarium for lung and oesophageal pathology. Its use now encompasses evaluation of anterior mediastinal masses [4] and mediastinal cyst resection [5]. We here describe the timely and successful use of video-assisted thoracoscopic drainage of a large mediastinal abscess and foreign body removal whilst avoiding thoracotomy and its attendant morbidity.

References