Thoracoscopic resection of mediastinal bronchogenic cysts in adults

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Abstract

Objective: Bronchogenic cysts are uncommon congenital anomalies of foregut origin usually located within the mediastinum and the lung and rarely diagnosed in adults. Surgical excision is recommended to establish diagnosis based on histologic examination, alleviate symptoms if present, and prevent future complications. Thoracoscopic approach is becoming the primary therapeutic option.

Methods: Between January 1995 and July 2008, 30 patients with mediastinal bronchogenic cyst (MBC) underwent thoracoscopic operation (19 male, 11 female with a mean age of 39 years, range 19–59 years). Symptoms were present in 11 patients (37%). Results: The cysts averaged 5.2 cm in their greatest diameter (range 3–10.5 cm). In two cases thoracoscopy was converted to thoracotomy because of major pleural adhesions. There were no operative deaths and no intra-operative complications. Postoperative course was uneventful in all cases and the 28 patients who underwent thoracoscopy were discharged after a mean of 3.7 days (range 2–5 days). Conclusions: Considering the low conversion and complication rate, thoracoscopic excision of bronchogenic mediastinal cyst should be considered the primary therapeutic option.

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Keywords: Video-assisted thoracoscopy; Bronchogenic cyst; Mediastinum

1. Introduction

Bronchogenic cysts are congenital lesions thought to originate from the primitive ventral foregut and may be mediastinal, intrapulmonary, or, less frequently, in the lower neck. Approximately two-thirds are within the mediastinum, and one-third are intraparenchymal [1,2]. They account for 40–50% of all congenital mediastinal cysts, and there is a slight male predominance. The true incidence of bronchogenic cysts is unknown presumably because most patients are asymptomatic. However, once the condition is diagnosed, surgical excision is indicated either to relieve clinical symptoms, or because of enlarging cysts or to prevent possible complications, such as infection, malignant transformation, tracheal compression, superior vena cava syndrome or hemoptysis [3,4]. The complete excision of the cyst is the gold standard and recurrence is extremely rare. Since 1991 thoracoscopic resection of bronchogenic cysts has been published in numerous reports and thoracoscopy is becoming the primary surgical option [5–7]. We describe our experience with thoracoscopic excision of mediastinal bronchogenic cysts and long-term follow-up recorded over the last 13 years. (Fig. 1)

2. Materials and methods

Between January 1995 and July 2008, 30 patients with mediastinal bronchogenic cyst (MBC) underwent the operation (19 male, 11 female with a mean age of 39 years, range 19–59 years). Symptoms were present in 11 patients (37%) including cough (n = 4), pain (n = 5) and dysphagia (n = 2). In the remaining patients the surgical indication was increase in cyst size (n = 5), patient’s request (n = 10) and histology clarification (n = 4). Preoperative evaluation included chest X-ray, fiber-bronchoscopy and computed tomography (CT) or magnetic resonance imaging (MRI). Esophagoscopy was performed in five patients and esophageal compression was documented in three cases. After double lumen intubation, with the patient in lateral decubitus position, the first trocar was placed usually in the seventh or eighth intercostal space, while the remaining two or three trocars were placed after visualization of the cyst. Anterior or posterior rotation of the operative table was helpful in lung retraction and cyst visualization. Cysts were excised with blunt and sharp dissection using hook-electrocautery or endoscopic scissor. Great care was taken to avoid injuries to the phrenic, vagus or laryngeal nerves. Dissection was performed keeping the cyst intact in most of the cases and usually we prefer to aspirate the cyst fluid at the end of the dissection just before extracting it. Gram staining and
cultures were done on the fluid. In cases where the cyst was particularly adherent to vital structures, a portion of the cyst wall was left in place after obliteration of the mucosa using electrocautery or laser beam to prevent the recurrence. At the end of the procedure, before lung re-expansion one or two chest tubes were placed. Postoperative pain control was assured by intravenous analgesia.

3. Results

There were no operative deaths and no intra-operative complications. The cysts averaged 5.2 cm in their greatest diameter (range 3—10.5 cm). Twenty-one cysts were located in the posterior mediastinum and nine in the middle mediastinum. In 26 cases the cyst was completely removed thoracoscopically. In two cases a small portion of the cyst mediastinum. In 26 cases the cyst was completely removed in the posterior mediastinum and nine in the middle mediastinum. Twenty-one cysts were located in the posterior mediastinum and nine in the middle mediastinum. In 26 cases the cyst was completely removed thoracoscopically. In two cases a small portion of the cyst wall was left in place after obliteration of the mucosa using electrocautery or laser beam to prevent the recurrence. At the end of the procedure, before lung re-expansion one or two chest tubes were placed. Postoperative pain control was assured by intravenous analgesia.

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conversion seem to make thoracoscopic excision the primary therapeutic option.

References