

An Oesophageal Duplication Cyst: A Diagnostic Dilemma!

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Abstract: *Gastrointestinal duplications usually manifest in children and may involve the oesophagus in 20% cases. We report an unusual case of mediastinal mass in a 4 years old female with a history of cough. On imaging a cystic mass was found in the middle mediastinum. On thoracotomy, it was found to be a oesophageal duplication cyst and later confirmed on histopathological examination.*

Keywords: oesophageal duplication cyst, mediastinal mass

1. Introduction

Embryological foregut duplication cysts are uncommon lesions comprising 15% of mediastinal masses. Three types of foregut cysts are: Bronchogenic, intramural oesophageal and enteric cysts. It arises as an abnormal budding from either dorsal or ventral part of primitive foregut. The imaging features of these types are almost identical and definitive diagnosis is done based on histopathological report. True duplication cysts result from the duplication of the submucosa and the muscularis mucosa without the duplication of the epithelium. Oesophageal duplications cyst are usually diagnosed in childhood, but adults are more likely to be symptomatic.¹ Presenting manifestations may include dysphagia, chest pain, and hematemesis or incidental detection. We report a 4 year female with oesophageal duplication cyst who presented with cough and chest pain and posed a difficult diagnostic dilemma.

2. Case Report

A 4 yrs. female presented to the outpatient clinic of our department with complaints of chest pain and chronic cough. She did not have any history of chronic or significant medical illness. On examination, the child was in good general condition, not cyanosed, distressed or tachypneic. On chest auscultation she had fine crackles bilaterally. Chest skigram surprisingly revealed a well-defined soft tissue mass lesion arising from the mediastinum on the right upper zone. (fig1)



Figure 1: Showing a large cystic lesion in Middle mediastinum.

Contrast enhanced CT scan of the thorax revealed a circumscribed, round cystic attenuating lesion in middle mediastinum more towards right side measuring $4.3 \times 5.0 \times 4.9$ cm in size. Radiographic differential diagnoses included bronchogenic cyst, neurogenic tumour, lymphoma, oesophageal duplication cyst (fig2). CT guided fine needle aspiration (FNA) of the lesion done with a 22-gauge needle and whitish fluid with thick consistency was aspirated. She was planned for exploratory thoracotomy. The patient was subjected to general anaesthesia and left sided double lumen tube endotracheal intubation. Following right sided posterolateral thoracotomy, a cystic mass was located emanating from the oesophageal wall. It was located anterior to the azygos vein, and extended inferiorly from just above

the azygos vein downward to the posterior aspect of pericardium (fig3). Aspiration of the mass yielded thick viscous fluid. The cyst was then excised along with its attachment with a button of the oesophageal wall (fig4). The defect in the oesophageal was closed transversely in double layer with interrupted sutures. Two chest drains were placed and the wound was closed in layers. Histopathology of the resected specimen confirmed the diagnosis of oesophageal duplication cyst. Patient is asymptomatic after 6 months of follow-up.

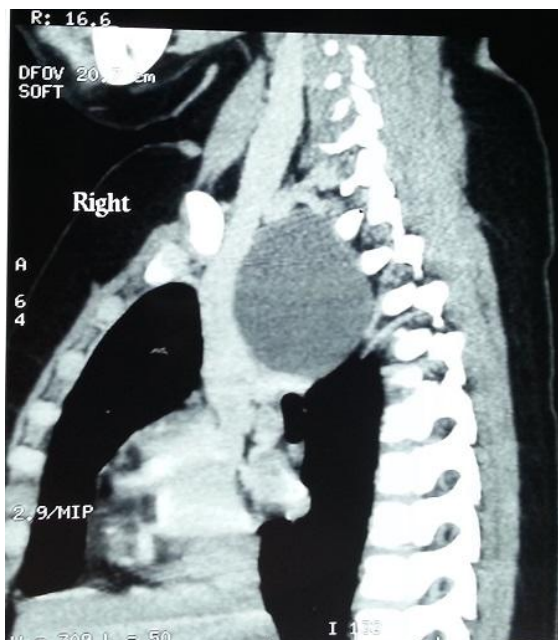


Figure 2: Lateral view of the cystic lesion.



Figure 3: Intraop photograph showing the tense cystic mass



Figure 4: Post op photograph of the excised cystic mass.

3. Discussion

Oesophageal duplication cysts constitute around 20% of all the gastrointestinal duplication cysts². Oesophageal duplication cysts can be cystic or tubular, with cystic being the more common pattern. The location of the oesophageal cysts may be variable, lower oesophagus being the commonest site while cervical and even intrabdominal oesophageal duplications have also been reported³. Our patient had a cystic lesion in the middle oesophagus. The oesophageal duplication cysts may present with dysphagia, chest pain, respiratory difficulty, haematemesis, back pain or may be detected incidentally⁴, most reports of symptomatic lesions are in children⁶. Some oesophageal duplication cysts may be associated with concurrent vertebral anomalies. The differentials of oesophageal duplication cyst includes other mediastinal cysts including hydatid cyst, muellerian cysts, bronchogenic cysts, pericardial cysts or cystic degeneration of mediastinal tumors⁵. Traditionally the diagnosis is suspected on computed tomography, which usually reveals a homogenous of tissue lesion with regular margins⁵. EUS is also an important diagnostic modality for evaluation of mediastinal cysts and lymph nodes. It provides a good tool to characterize these lesions and distinguish them from bronchogenic cysts by the absence of cartilage, proximity to the oesophagus and double muscle layer around them. Oesophageal duplications may get complicated and result in haemorrhage, perforation, infection and malignant transformation. They may undergo peptic ulcerations if lined by gastric tissue, which may lead to perforation or gastrointestinal bleeding⁷. Malignancy may also occur although the exact rate is uncertain⁸. For these reasons, the usual approach is to surgically excise these lesions although some workers suggest a wait and watch approach for asymptomatic lesions⁷. Some reports of endoscopic management of the duplication cyst are also available. Endoscopic fenestration of non-communicating cyst has been successfully done and a step by step incision of the septum between the oesophageal lumen and the communicating duplication cysts has also been reported.

4. Conclusion

Foregut mediastinal cysts, although uncommon, should be considered in the differential diagnosis of any infant or child found to have a middle or posterior mediastinal mass. Surgical excision is recommended at the time of discovery to prevent the development of complications and remove the potential of malignant transformation.

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