

Thoracoscopic Excision of Giant Leiomyoma: A Case Report and Review of Literature

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Abstract

INTRODUCTION:

Oesophageal leiomyomas vary in their presenting size from a few centimetres to greater than 5 cm which are rare. The preferred surgical technique for leiomyomas is video-assisted thoracoscopic enucleation without opening the mucosa, which is easier, faster and safer compared to resection. In our patient, due to the size and location of the tumour, it was resected in toto using a thoracoscopic approach.

ABSTRACT

Benign tumours of the oesophagus are rare. However, amongst them, leiomyomas are common. Tumours larger than 5 cm are rare and may present as dysphagia or epigastric pain. Combined esophagoscopy and video-assisted thoracoscopic surgery or laparoscopic trans hiatal resection are used in the management of leiomyoma of oesophagus. We present a case of a 51-year-old gentleman who presented with dysphagia and weight loss. Imaging demonstrated an oesophageal mass which on surgical exploration and histopathology, confirmed the diagnosis of a leiomyoma.

CONCLUSION:

A thoracoscopic approach combined with an intra-operative upper GI scopy is feasible even for a giant leiomyoma in the mid oesophagus which helps in early post-operative recovery and reduces the morbidity of a thoracotomy.

Keywords: leiomyoma, VAT-video assisted thoracoscopy

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I. Introduction

Less than 10% of oesophageal tumours are benign, among which leiomyomas are the most common tumours representing approximately two-thirds of the cases [1]. Oesophageal leiomyomas are commonly found in middle-aged patients with a male to female ratio of 2:1. Oesophageal leiomyomas vary in their presenting size from a few centimetres to greater than 5 cm which are rare [2]. The larger tumours can cause symptoms due to tumour compression and/or dysfunction of the cardia but majority of them are asymptomatic and are incidentally found [3]. Malignant transformation in leiomyomas is rare and cannot be accurately identified with needle aspiration biopsy making resection followed by histopathological evaluation vital. Transthoracic extra mucosal blunt enucleation is considered the standard surgical treatment. However, it may not be suitable for giant leiomyoma due to the mucosal damage and potential sarcomatous change of the tumour [4]. Here we present a case of a giant leiomyoma of the middle oesophagus presented with dysphagia and weight loss

II. Case History:

A 51-year-old gentleman presented with a complaint of intermittent dysphagia for 2 years which increased for 1 month with weight loss. There was no associated vomiting or evidence of upper Gi bleed. Computerized tomography (CT) of the chest and abdomen showed a large, well-defined homogeneously enhancing predominantly exophytic solid soft tissue density lesion with few tiny calcific foci, arising from the posterior wall of the mid oesophagus extending from D5 to D9(Fig 3). Endoscopic examination of the upper gastrointestinal system showed a smooth submucosal oesophageal lesion from 28cm to 34cm from the incisors causing luminal compromise (Fig 1). Endoscopic US-guided FNAC was taken(Fig 2) which showing clusters of benign spindle cells suggestive of diagnosis of leiomyoma of the oesophagus with no malignant changes. A video assisted thoracoscopic enucleation of oesophageal leiomyoma was done without opening of mucosa. Intraoperative endoscopy was done to confirm there is no mucosal injury or opening. The excised mass was 10 × 3 × 2.5 cm in size and lobulated (Fig. 7). A right chest drain was inserted. Post operatively the patient was

started on orals after an oral contrast scan was done on day 3, preceding which he was on nasogastric feeds. Patient was discharged on day 5 after removal of the right chest drain.

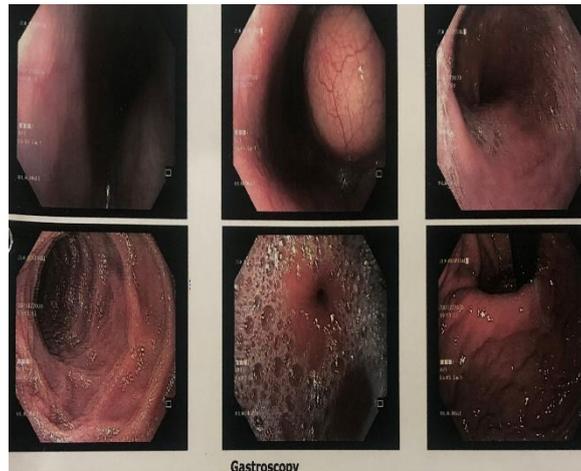


Fig. 1: Endoscopic view of oesophageal leiomyoma

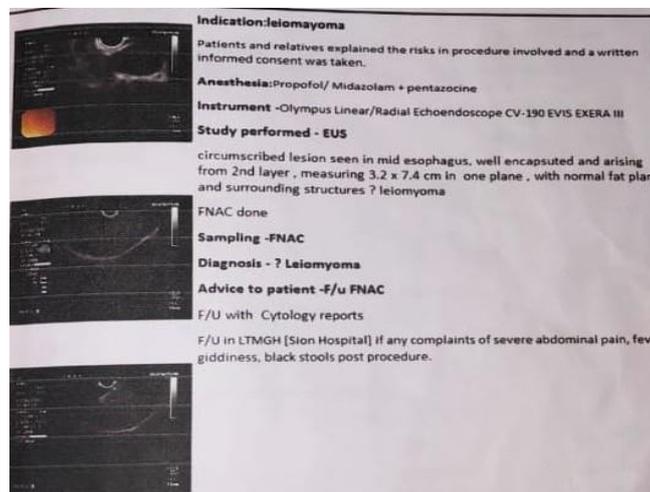


Fig 2: Endoscopic US of Oesophageal lesion

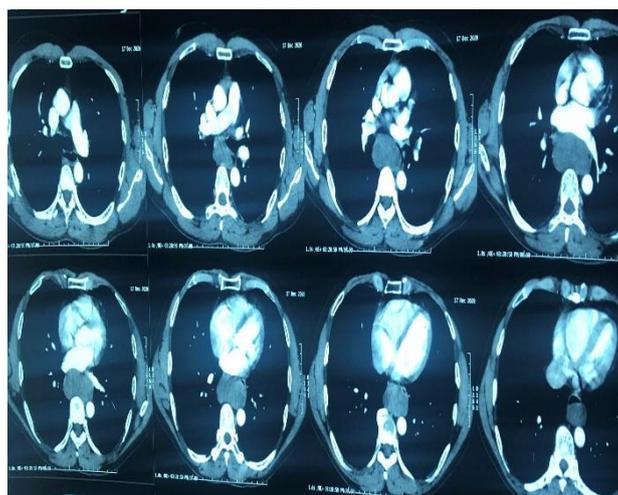


Fig 3: CT Scan showing oesophageal leiomyoma

SURGICAL PROCEDURE:

Under General Anaesthesia using double lumen tube in semi prone position, right thoracoscopy was performed. Four trocars were placed, camera port in 7th intercostal space in mid axillary line, one 10 mm trocar

in 5th and another 5 mm trocar in 9th intercostal space in post axillary line. A 5 mm trocar in mid scapular line in 9th intercostal space was inserted for retraction (Fig 4). Right lung was isolated. Tumour was identified in mid oesophagus below the azygos oesophagus mediastinal pleura, adventitia of the oesophagus and muscularis propria layer were cut longitudinally to expose the tumour, which was bilobed and arising from muscularis mucosa. A stay suture was taken to retract it. Complete enucleation was done without any injury to the mucosa. the muscularis propria, adventitia of the oesophagus and mediastinal pleura were approximated with interrupted sutures (Fig 6) and 28-Fr chest drain was placed. Intraoperative upper GI endoscopy was done to confirm there was no mucosal injury to oesophagus and an air leak test was performed.



Fig 4: Trocar insertion Sites in semi prone position

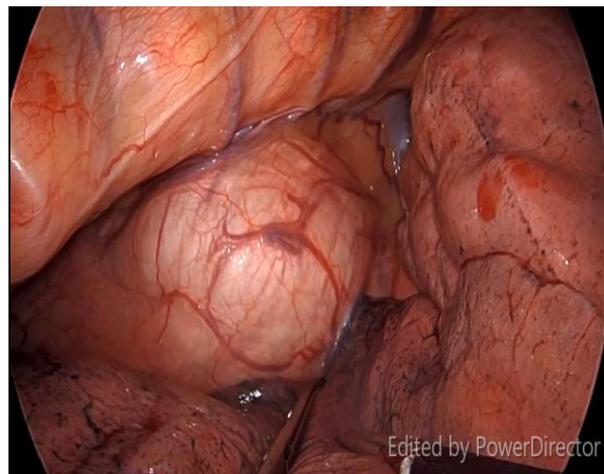


Fig 5: Thoracoscopic view of tumor



Fig 6: Sutured Oesophagus and pleura after removal of the tumor



Fig 7:

III. Discussion:

Leiomyomas often have an intramural location but some present near the oesophageal diverticula or grow intramurally as a pedunculated polyp. Preoperative diagnosis of oesophageal leiomyoma is often challenging as it can present as a posterior mediastinal mass on chest radiograph and may be seen as an incidental radiological finding [5]. Barium swallow is the commonly used imaging technique for the diagnosis of oesophageal lesions by highlighting smooth filling defects in the oesophageal lumen without mucosal damage. The tumour is usually mobile on deglutition [3,6]. CT and endoscopic ultrasound (EUS) play an important role in diagnosis as they delineate the intramural nature of tumours [6]. In this case, chest radiograph and CT scan revealed a well-defined soft tissue mass on the posterior wall of the mid oesophagus. Use of biopsy in the diagnosis is controversial as debated in previous reports; it is associated with complications such as infection, bleeding, increased intraoperative perforation and technical difficulties [7,8]. Literature however also recommends that biopsy can be performed in case of a diagnostic dilemma [5]. EUS guided FNAC was performed to confirm the diagnosis in this case. The surgical indications of these tumours include unremitting symptoms, increased tumour size, mucosal ulceration, histopathologic diagnosis and facilitation of other surgical procedures [5]. Malignant transformation in leiomyomas is rare but needle aspiration biopsy usually does not accurately identify the nature of the lesion; therefore, malignancy can only be ruled out by resection [9]. Controversies do exist with respect to management as some recommend resection to rule out malignancy even when asymptomatic while others recommend a “follow up” policy [10]. Some recommended observation for asymptomatic patients with lesions smaller than 5 cm and when the preoperative workup has excluded malignancy [5]. The standard surgical approach is thoracotomy. The preferred surgical technique for leiomyomas is transthoracic enucleation without opening the mucosa, which is easier, faster, and safer compared to resection [5,9]. Oesophageal resection is indicated for large tumours and tumours located at the gastroesophageal junction. Leiomyomas located at the proximal and middle third of the oesophagus can be operated via a right thoracotomy or thoracoscopy [10]. Surgical resection is performed by a Trans Hiatal approach for tumours in the lower third of the oesophagus. The video-assisted thoracoscopic approach with intraoperative esophagoscopy is another alternative that facilitates the procedure. EUS-guided endoscopic resection, endoscopic laser ablation, and aspiration lumpectomy are less invasive [9]. In our patient, due to the size and location of the tumour, it was enucleated by video assisted thoracoscopy.

IV. Conclusion:

Thoracoscopic assisted excision of oesophageal leiomyomas is feasible and reduces the post-operative morbidity associated with a thoracotomy.

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