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CASE REPORT

Unusual Cause of the Chest Pain: Oesophageal Lipoma

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Case Report

An 86-year-old woman with a history of multiple chronic conditions, including hypertension, diabetes, dyslipidemia, hypothyroidism, and glaucoma, presented to the family medicine clinic. She reported experiencing chest pain for the past two days. The pain was described as a pressure sensation, and she denied any dyspnea, shortness of breath, or paroxysmal nocturnal dyspnea. Upon examination, she appeared well and was vitally stable. Both the ECG and troponin levels were normal.

A chest X-ray (Figure 1) revealed a soft tissue density in the middle mediastinal compartment, causing compression of the oesophageal column with smooth tapering. A further assessment by CT scan of the chest (Figure 2) identified a pedunculated, fat-density mass in the upper third of the oesophagus, resulting in obstruction and mild dilation of the proximal oesophagus, consistent with the lesion observed in the previous radiograph. No oesophageal thickening or abnormal enhancement was present, no soft tissue component and there was no enlargement of local lymph nodes.

The mass was partially seen in an older MRI of the thoracic spine done 12 months prior to the CT scan, but not reported/documentated (Figure 3). The family clinic then referred the patient to the GI clinic for further evaluation and upper GI endoscopy.

Discussion

Benign oesophageal tumours are rare, comprising less than 1% of all oesophageal neoplasms, which include leiomyomas, fibrovascular polyps, squamous papilloma, granular cell tumours, lipomas, neurofibromas, and inflammatory fibroid polyps. Lipomas in the alimentary tract comprise 4.1% of all benign tumours, and oesophageal lipomas represent only 0.4% of all benign GI tract neoplasms [1,2].

Lipomas can occur throughout the GI tract, most frequently in the colon and small intestine and less commonly in the oesophagus and stomach [3]. Oesophageal lipomas typically arise from the oesophagus' cervical and upper thoracic regions [4]. They are most seen in individuals in their 50s to 70s, with a slight predominance in females [5]. These benign tumours are

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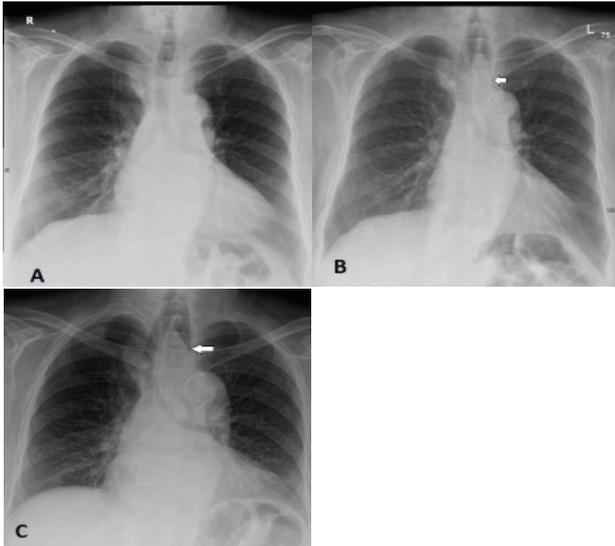


Figure 1 Multiple frontal chest radiographs. (A) Baseline radiograph 7 years ago showing unfolded aorta with calcification of the aortic knuckle. The cardiomeastinal silhouette and lungs are within normal otherwise. (B) Radiograph at time of presentation showing mediastinal soft tissue (Arrow), likely in the middle compartment, leading to compression on the oesophagus. No tracheal deviation. (C) Follow up radiograph after 4 months showing interval increase in size of the mediastinal soft tissue (Arrow).

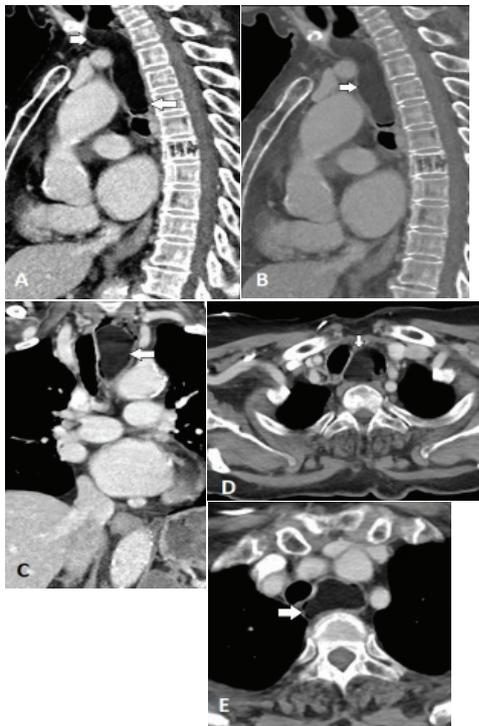


Figure 2 (A-E) Sagittal, coronal and axial enhanced CT images show an endoluminal oesophageal hypoattenuating mass (Arrow) with fat density seen in the upper third measuring approximately 2 x 3 x 7 cm, responsible for near complete obstruction of the oesophagus and subsequent mild dilatation of the upper third of the oesophagus, with no invasion to adjacent structures.

generally asymptomatic and often found incidentally (~85%) [4]. The size of a lipoma influences its potential to cause symptoms. According to Hurwitz MM, et al. [6] GI tract lipomas under 1 cm are usually asymptomatic, whereas 75% of those over 4 cm may cause symptoms. Lipomas exceeding 2 cm in diameter can produce symptoms such as dysphagia, regurgitation, recurrent melena, and epigastric pain [6,7]. The most common symptom is dysphagia. However, 85% of oesophageal lipomas are clinically silent, with most cases discovered incidentally through radiographic imaging [5].

Accurate diagnosis requires a comprehensive examination, imaging techniques (such as barium swallow, CT chest, and MRI), and upper GI endoscopy [8]. On a CT scan, lipomas appear as homogeneous fat-density lesions (-40 to -120 HU) [9]. MRI reveals lipomas as T1-weighted hyperintense areas that become hypointense on fat-suppressed images [10]. Conversely, liposarcomas are heterogeneous with high signal intensity on T1 and T2-weighted images [11]. Taylor AJ, et al. [5] noted that strands within a homogeneous fatty tumour may be due to inflammatory changes and should not be mistaken for liposarcoma, a rare occurrence.

The management of oesophageal lipoma depends

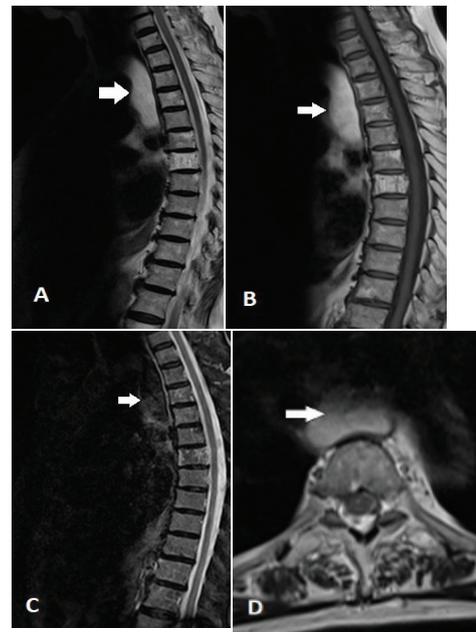


Figure 3 MRI of the thoracic spine showing the oesophageal lesion following fat signal intensity on T1WI (A) and T2 (B) with suppression on T2WI fat sat sequence post contrast (C) No enhancement post contrast. (D) Axial T2WI at the level of the axial CT (E) in figure2.



on symptoms, tumour location, and available expertise. General anesthesia is typically used for surgeries, including necessary endoscopic procedures. For smaller tumours, flexible or rigid upper endoscopy is effective, often guided by Endoscopic Ultrasound (EUS) to confirm mass location, allowing for procedures like polypectomy or endomucosal resection [12]. Most cases involve oesophagotomy and excision, while large tumours or those at the gastroesophageal junction may necessitate oesophagectomy. Surgical approaches include open surgery or Minimally Invasive Techniques (MIS). A left cervical open approach is used for cervical lesions [13], while Video-Assisted Thoracoscopic Surgery (VATS), Robotic-Assisted Thoracoscopic Surgery (RATS), and laparoscopy are employed for mid, lower, and lower oesophageal masses, respectively [14,15]. The technique requires a longitudinal incision on the oesophagus, careful dissection to remove the tumour, and layered closure with a chest tube for monitoring postoperative complications. If complications are anticipated, conversion to thoracotomy may be recommended. Patients usually stay in the hospital for about three days, with potential complications including bleeding, oesophageal leaks, pneumothorax, surgical site infections, and tumour recurrence.

Conclusion

Oesophageal lipomas are infrequent and mostly asymptomatic, detected primarily through incidental imaging unless they grow large enough to cause obstructions like dysphagia. Diagnostic imaging through CT and MRI is crucial in identifying these benign tumours. Depending on the tumour's size and location, various treatment strategies can be considered, ranging from minimally invasive endoscopic approaches for upper oesophageal polyps to laparoscopic or thoracoscopic interventions for distal or intramural lesions, minimizing hospital stays and potential complications [11].

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