Posterior mediastinal mass compressing the left atrium: A rare complication after lung resection

Department of Cardiothoracic Surgery, University Hospital of Wales, Heath Park Cardiff, UK

Abstract
We are presenting a rare postoperative lung resection complication, which led to secondary constraints on the left sided heart, leading to pure cardiac decompensation with recovered pulmonary function. This complication comprises of a large contained mediastinal haematoma with severe left atrial and oesophageal compression.

Background
It is not uncommon that the postoperative course of any pulmonary resection may be complicated by dyspnoea. The severity of this symptom is multifactorial; it varies according to the preoperative performance status, the nature of resected tissue, degree of postoperative pain and additionally, the post-operative complications such as pneumothorax or retained secretions and lung collapse. Other possible aetiologies are cardiac related (i.e. left or right ventricle dysfunction, pre-existing valvulopathies). Here, we describe a progressively increasing postoperative dyspnoea that was produced by a posterior mediastinal mass compressing the left atrium.

Case report
A 71-year-old woman with COPD and current smoker was referred to our department for a left upper lobe lesion with avid 3.2 cm mass on Positron Emission Tomography (PET) scan. No nodal or distant metastatic disease and staged as T2aN0M0. A computed tomography (CT) guided core biopsies showed foci of moderately differentiated squamous cell carcinoma. A surgical resection was performed in form of uniportal left VATS and upper lobectomy with enblock excision of mediastinal lymph nodes including the aorto-pulmonary (AP) window (station 5), subcarinal (station 7), hilar (station 10) and inter-lobar (station 11) lymph nodes. The subcarinal lymph node dissection was done utilizing the anterior approach (Figure 3). It was compressing both the main PA with no subsequent bleeding observed after multiple washouts with warm 0.9% Saline. The subsequent postoperative course was uneventful; with complete resolution of dyspnoea, hoarseness of voice and pedal oedema. The pre-discharge echocardiogram and CT angiogram demonstrated complete removal of the mass and a normal left atrial cavity.

Discussion
It is known that lung resection leads to a reduction in lung function proportionally to the number of segments resected [1]. Moreover, the symptoms in most of the cases are related to the obvious loss of lung volume leading to inadequate gas exchange. This condition usually improves with time aided by pulmonary rehabilitation and physiotherapy. Other causes are retained secretions, pneumothorax or pleural effusion especially after drain removal. However, the posterior significant mediastinal haematomas after lung resection are uncommon.

Correspondence to: Hatam Naase, Department of Cardiothoracic Surgery, University Hospital of Wales, Heath Park Cardiff, UK; E-mail: hatamnaase@doctors.org.uk

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structures due to sudden increase in intrathoracic pressure such as in vomiting, sneezing or coughing [8]. In the present case, this is the first to describe a postoperative haematoma after lung surgery. The cause of this well contained blood collection is probably related to mediastinal lymphadenectomy of the subcarinal or AP window lymph nodes (Station 5 and 7) in which here we have used the anterior approach as opposed to the usual posterior approach due to adhesions.

This unusual finding was considered when all pulmonary causes had been excluded. In the presence of new bilateral lower-limb oedema the differential diagnosis of symptoms being secondary to a cardiac cause was investigated. In fact, the findings on the transthoracic echocardiogram were unexpected. The clinical condition was produced by left atrial compression by a large collection of clots causing symptoms due to left atrial overload leading to pulmonary congestion. Its evacuation led to a rapid improvement of the patient condition and subsequent uneventful recovery.

Conclusion

In conclusion, we believe that this present case demonstrates the value and importance of careful analysis of any postoperative complications to facilitate prompt and proper management. This illustrate that unexplained symptoms may be indicative for underlying serious cause, this should prompt further investigation and definitive action in which here was immediate surgical intervention. This enables full evaluation of the patient to avoid missed serious complications.

References


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