

SHORT REPORT

The Azygos Lobe: An Anatomical Variant Encountered During Thoracoscopic Sympathectomy

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Introduction

Thoracoscopic sympathectomy is increasingly used in the management of hyperhidrosis and facial blushing. Pleural adhesions after previous infection, trauma, surgery or pneumothorax may result in difficulty visualising the sympathetic trunk. This report describes the presence of an azygos lobe, a rare anatomical variant, encountered at operation. Recognition of this unusual anatomy is important so that vessel injury is avoided and an effective sympathectomy performed.

Case Report

A 27-year-old female presented with axillary hyperhidrosis and consented to bilateral thoracoscopic sympathectomy following failure of medical treatment. At operation the azygos vein was found suspended at the apex of the right pleural cavity with a portion of the right lung (an azygos lobe) herniating through the loop in the vein.

The lung was reduced into the pleural cavity and a window cut in the mesentery. This allowed ablation of the T2, T3 and T4 sympathetic ganglia with a harmonic scalpel, taking care to avoid injury to the azygos vein. The patient made an uneventful recovery; had a normal post-operative chest X-ray, and resolution of her hyperhidrosis.

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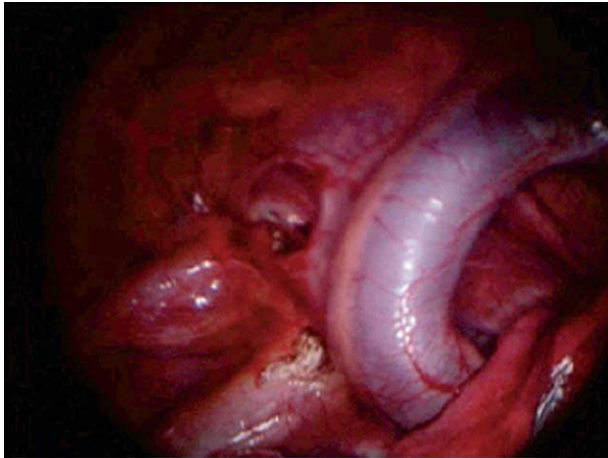
Discussion

The azygos lobe was described by Heinrich Wrisberg in 1877, and identified radiologically 46 years later.¹ We do not perform a pre-operative chest X-ray in fit patients with no respiratory symptoms and thus it was not identified prior to surgery.

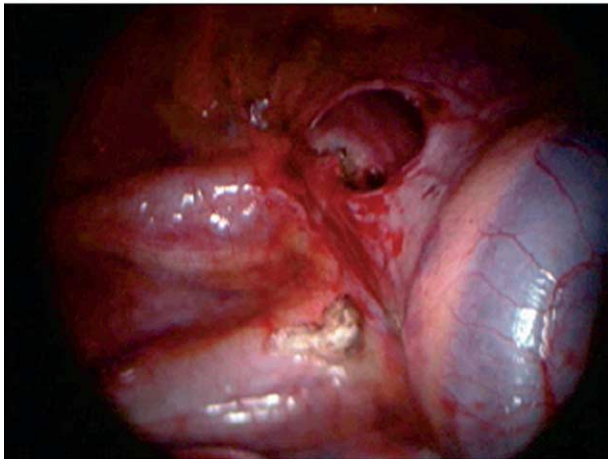
The azygos lobe is a normal variant of pulmonary anatomy, present in 0.1–8% of the population,² which develops when the apex of the right lung encounters the arch of the azygos vein. In the embryo the right posterior cardinal vein, part of which persists as the azygos vein, lies lateral to the apex of the right lung bud. If the normal medial migration of the vessel over the apex of the lung fails to occur the relationship between the lung bud and the posterior cardinal vein persists and the venous arch cleaves the superior surface of the developing right lung.³ The portion of the right upper lobe lying medial to the azygos vein is the azygos lobe which is separated from the rest of the lobe by a fissure in which the azygos vein lies, enclosed in a free margin of a mesentery derived from mediastinal pleura⁴ (Fig. 1(a) and (b)).

In the case reported here the pleural mesentery and vein associated with a normal azygos lobe prevented a clear view of the sympathetic chain. The T2 ganglion was ablated after cutting a window in the mesentery whilst the T3 ganglion was identified at the point where the mesentery merged with the posterior parietal pleura. Great care was taken to avoid injury to the azygos vein since bleeding from this may have required a thoracotomy to achieve haemostasis.

In summary, the presence of an azygos lobe is a rare anatomical variant that may compromise the success



(a)



(b)

Fig. 1. (a) The azygos vein suspended on the mesoazygos. The azygos lobe has been dislocated from beneath the arch of the vein and a window cut in the mesentery. (b) Closer view showing the sites of ablation of the 2nd and 3rd sympathetic ganglia.

of thoracoscopic sympathectomy and increase the risk of the procedure. Recognition of the anomaly is, therefore, important.

References

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