

CASE REPORT

ADAMS LOBE: A CASE REPORT

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ABSTRACT: Morphological variations when present in fissures and lobes of lung are of great importance to anatomists as well as cardiothoracic surgeons. The present case reports an azygos lobe in the apex of right lung in a 40 years old cadaver which was found during routine dissection for undergraduate students of Karpaga Vinayaga Medical College, Madhuranthagam, South India. The left lung was normal. The importance and development of the azygos lobe is discussed.

KEYWORDS: Azygos lobe, Fissures, Lungs.

INTRODUCTION: The azygos lobe is an accessory lobe of the right lung. It is a congenital malformation due to alteration in the embryonic development of the azygos vein. An azygos lobe is found in about 0.4 to 1.05% in both autopsy and radiographic studies.¹ Clinically the azygos lobe has been accepted as a normal variation that can simulate various diseases. Even so knowledge about these variations is essential to avoid misdiagnosis and prevent possible injuries during surgery.²

CASE REPORT: During routine dissection for undergraduate students of Karpaga Vinayaga Medical College, Madhuranthagam, found a right lung of a 40 years old male cadaver showing an azygos lobe. The fissure was vertical incomplete extending up to the hilum of the lung. The left lung was normal.

DISCUSSION: The lobe of the azygos vein was first described by Weisberg in 1777 in a 3yrs old boy cadaver. Since then it is also known as "Lobe of Weisberg".^{3, 4} During fetal development, the right posterior cardinal vein, a precursor of the thoracic segment of the azygos vein normally migrates over the apex of the right upper lung to occupy a medial mediastinal position. In some cases, migration anomaly occurs and the vein penetrates the right upper lobe. The vein carries the parietal and visceral layers of pleura to form an accessory fissure comprising a total of four pleural layers called mesoazygos. The lung parenchyma positioned medial to the accessory fissure is called azygos lobe or Adams lobe.⁵ In X-rays of the chest the mesoazygos appears as a delicate line with an enlargement at its lower end that represents azygos vein.⁶ It is usually aerated by mediastinal branches of the apical segmental bronchus and is not unduly susceptible to disease. It is more commonly seen in men.⁷ Its pathological significance is a subject of dispute. Some observations show that there is a relative hypoperfusion and hypoventilation of the lobe and this observation should be considered in the differential diagnosis of pulmonary scintigraphic perfusion defects.⁸ Altered anatomy at the apex of the lung in a patient with an azygos lobe protects the apex from development of the blebs and bullae that are characteristically seen in those young adults who present with a spontaneous pneumothorax because the four layers of

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pleura forming the azygos lobe act as a septum in preventing transmission of forces towards the apex.⁹

Spontaneous pneumothorax is relatively common with an incidence of more than 7 cases in 1,00,000 men and of more than one in 1,00,000 women per annum.¹⁰ Azygos lobe carries clinical importance to the anesthetists and surgeons in minimizing intra-operative vascular injuries and shock. An azygos lobe may occasionally be confused with a pathological process such as a bulla, lung abscess or neoplasm. An understanding of the anatomical and characteristic x-ray features of the azygos lobe will enable an accurate localization in most cases which may help in proper diagnosis and preventing potential problems during surgery.

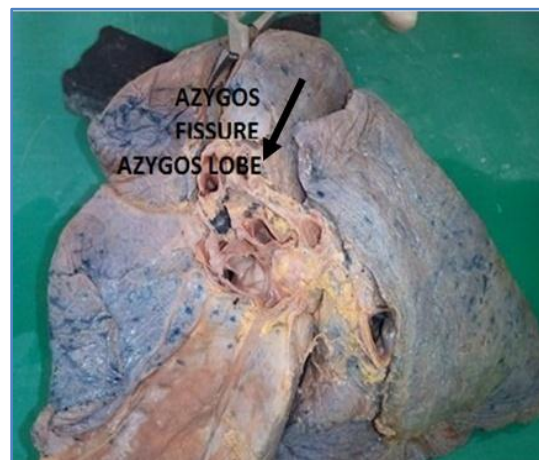
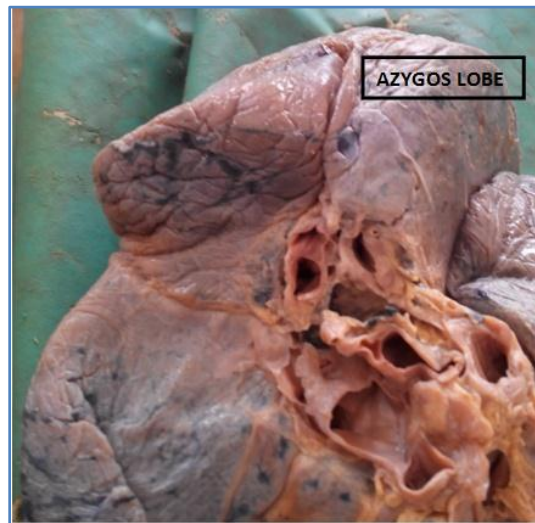
CONCLUSION: Knowledge of the prevalence of the azygos lobe and its anatomical appearance is a pre-requisite for diagnostic and surgical procedures of the lungs, especially to combat complications that happen intra-operatively.

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Right lung showing azygos lobe:



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