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Research Article

CADAVERIC STUDY OF AZYGOUS LOBE OF LUNG

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ABSTRACT

This normal variant occurs in less than 5% of the population. Despite it's characteristic shadow, it often alarms physicians not familiar with it's appearance The congenital azygous lobe with its suspensory azygous web is an anatomic variant that can obscure visualization of the superior sulcus of the right hemithorax during various thoracic surgical procedures (Thorek, 1962). The azygos lobe forms when the azygos vein fails to migrate over the apex of the lung during fetal life. Instead, it courses through the lung, dragging along with it the parietal and visceral pleura.

Key Words: Azygous Lobe, Dissection, Cadaver

INTRODUCTION

In normal human anatomy, the azygous vein courses cephalad along the vertebral column, then arches forward above the root of the lung (Cohen *et al.*, 1998) It then enters the superior vena cava, which enters the pericardium and right atrium. During human embryologic development, the right lung bud must pass laterally under the arch formed by the right posterior cardinal vein (future azygous vein). Failure of the lung bud to clear this cardinal vein results in the splitting of the right lung. The vein becomes encased by the developing lung tissue, and that portion of the right upper lobe which remains medial to the vein is the azygous lobe (Keith Moore *et al.*, 2009). This normal variant occurs in less than 5% of the population. Despite it's characteristic shadow, it often alarms physicians not familiar with it's apearance. The azygous lobe forms when the azygous vein fails to migrate over the apex of the lung during fetal life. Instead, it courses through the lung, dragging along with it the parietal and visceral pleura. The four layers of pleura are then known as the azygous fissure, and the bit of lung tissue separated from the rest of the lung is known as the azygous lobe. The azygous vein itself is seen on end, and may simulate a pulmonary mass. This normal variant is often seen on AP lower cervical views, as was the situation with this particular case. It's important to note that this anomaly is of no clinical significance-just don't confuse it with other more serious conditions (Gray's Anatomy, 2008).

MATERIAL AND METHODS

Study was conducted on 100 cases out of 50 of right side and 50 are of left side cadaveric lungs .In the government medical college, Surat during the academic sessions. Dissected lungs were removed from the body by using the method given in the Cunningham's volume of dissector⁴. During the study we found three cases of extra lobe on the right lung which is separated by fold of mesentry, the average size of the lobe is 4.5*3*2 cm in size and it is separated by a fissure which is running downward and foreward in relation with bronchopulmonary segment.

Observation Table 1 show the total 3 cases in which we have found azygous lobe out of 100 cases. These 3 cases are present only in right side only.

Table 1: S	Showing t	he total no	of lung and	d no of	cases in	which	azvgous lobe	of lung	present
			0						

Total no lung	100	Azygous lobe present in no of
		cases
Rt	50	3
Lt	50	-

Table 2 shows the size of azygous lobe in each case. Average size of azygous lobe is 4.5*3*2 cm.

Table 2: Showing the size of azygous lobe of lung present in each case							
Azygous lobe		Size of azygous lobe					
	In 1 st case	4.6*2.8*2 cm					
	In 2 nd case	4.4*3*2 cm					
	In 3 rd case	4.4*3*2 cm					



Figure 1: Showing azygous lobe from costal surface of right lung.

In our study we found the azygous lobe of lung in right lung which is seen in photograph 1 from costal surface and in photograph 2 azygous lobe of lung seen from mediastinal surface.

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Figure 2: Showing azygous lobe from mediastinal surface of right lung.

DISCUSSION

An accessory lobe Azygos lobe is a congenital anomaly of the lung caused by a fold of pleural tissue carried by the azygous vein during descent into the thorax during embryonic development. It produces an extra lobe in the right upper lung and may appear on x-ray film as a fissure in the shape of an upsidedown comma. It occurs when the right posterior cardinal vein, one of the precursors of the azygos vein, fails to migrate over the apex of the lung and penetrates it instead; carrying along pleural layers that entrap a portion of the right upper lobe. An azygos lobe of the human lung is one of the most common lung malformations. However, there are only a few anatomical reports concerning the bronchial and blood supply to this lobe. We encountered the azygos lobe in an anatomical dissection in (2.5%) one case. The azygos lobe of this case examined macroscopically. The azygos lobe situated medial to the superior lobe and superior to the hilum of the right lung. The parietal pleura wrapped around the azygos vein like a mesentery to form the meso-azygos. Partial removal of the lung parenchyma revealed that the azygos lobe received bronchial branches from the medial components of the apical and anterior branches of the apical International Journal of Basic and Applied Medical Sciences ISSN: 2277-2103 (Online) An Online International Journal Available at http://www.cibtech.org/jms.htm 2013 Vol. 3 (2) May-August, pp.30-33/Brahmbhatt et al.

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segmental bronchus (B¹a and B¹b), and that these bronchial branches bent excessively in a medial direction from the parent bronchial trunk. For therapeutic drainage of secretions from a right azygos lobe, a 45° upright sitting posture with the neck flexed to the right side is recommended, because in this posture the bronchial branches to the azygos lobe assume a more vertical orientation to facilitate greater dependent drainage of this lobe⁷. In another study,. A 15-year-old boy was receiving chemotherapy for osteogenic sarcoma of the left femur. A routine chest radiograph incidentally 1 cm in diameter was seen in the posterior right upper lobe. Evaluation of the lung nodule was found to contain metastatic osteosarcoma. The patient recovered quickly from the biopsy and continues to receive chemotherapy. So in secondaries in lung also evaluation of this azygous lobe diagnosis is important in planning treatment mode (Delalieux *et al.*, 2006).

Conclusion

The azygous lobe of lung is not very uncommon condition but the consideration must be given to its existence during the routine X- ray examination and during the condition like carcinoma of the lung where It can be mistaken as the metastasis. The study shows the existence of the azygous lobe of lung and help to correlate it with the other lungs condition.

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