



Unique Journal of Medical and Dental Sciences

Available online: www.ujconline.net

Case Report

ABSENCE OF HORIZONTAL FISSURE IN RIGHT LUNG – A CASE REPORT

Gazala Shaireen^{1*}, Malipatil SB²

¹Post Graduate Student, Department of Anatomy, Mahadevappa Rampure Medical college, Gulbarga, Karnataka, India

²Professor And HOD, Department of Anatomy, Mahadevappa Rampure Medical College, Gulbarga, Karnataka, India

Received: 11-09-2014; Revised: 10-10-2014; Accepted: 05-11-2014

*Corresponding Author: **Gazala Shaireen**

Department of Anatomy, Mahadevappa Rampure Medical College, Gulbarga, Karnataka, India

ABSTRACT

Knowledge of the position of fissures of the lungs is necessary for the appreciation of lobar anatomy and thus locating the broncho pulmonary segments.

During routine dissection for 1st MBBS students 2013-14 batch in a female cadaver, we have found right lung with absence of horizontal fissure and presence of oblique fissure.

On the right side lung showed the absence of horizontal fissure and had only two lobes. Awareness regarding anatomical variations is essential for performing lobectomies and segmental resection and interpreting radiological images.

Keywords: Lobes, Cadaver, Horizontal Fissure Lung, Lobar Anatomy.

INTRODUCTION

The lungs are pair of essential respiratory organs in the humans. They are separated into lobes by fissures, with three lobes on the right and two on the left¹. The respiratory system develops from the laryngo tracheal tube during the 4th week of intrauterine life. The cephalic part of the tube form the larynx, and succeeding part gives rise to trachea and bifurcates into right and left lung buds. Each lung bud gives rise to bronchial tree and the primordium of the lung². During development as lung grows, spaces that separate individual broncho pulmonary buds becomes obliterated except along two planes. Evident in the fully developed lungs as oblique and horizontal fissures³.

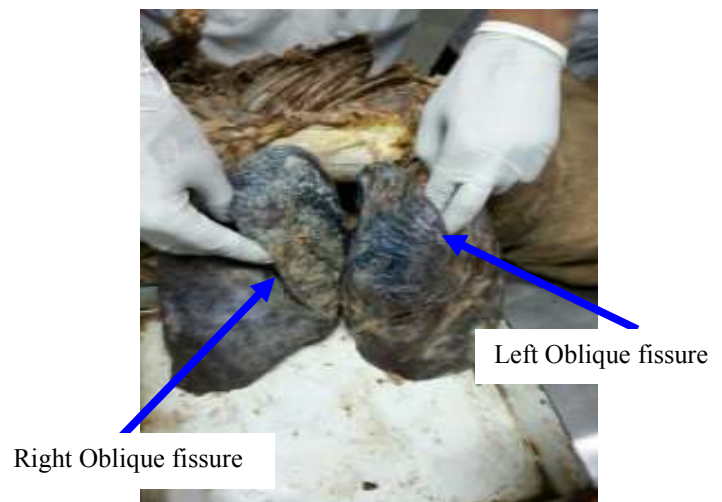
CASE REPORT

During routine dissection for 1st MBBS students 2013-14 batch in a female cadaver we have found, right lung with absence of horizontal fissure and presence of oblique fissure and had only two lobes.

DISCUSSION

According to Meenakshi et al accessory fissure could be the result of non – obliteration of spaces, which normally are obliterated⁴. According to Modgel et al defective pulmonary

development will give rise to variations encountered in fissures and lobes⁵.



Aziz et al, (2004) suggested that inter lobar fissures are important land marks for proper identifications of normal pulmonary anatomy and evaluation of disease⁶. Anatomical knowledge of variations is required to alert surgeons to potential problems encountered during operation⁷. The lymphatics of lung drain from pleura towards the hilum.

Altered course to oblique fissure would lead to altered course of visceral pleura, thereby changing the arrangement of lymphatic drainage⁸. Accessory fissures were seen in 11 lungs (5 on right, 5 on left). These fissures act as channels for the spread of infections leading to sharply marginated pneumonia. Accessory fissures can also be confused with areas of pleural sacs or bullas or linear atelectasis⁹.

These fissures may be complete, incomplete or absent. Other than usual fissures, the lungs may also have accessory fissure which may be single or multiple dividing the lungs into many lobes¹⁰. It is of great significance to cardio thoracic surgeon for planning segmental resections or pulmonary lobectomy¹¹.

CONCLUSION

The anatomy of the fissures is used as reliable landmarks in planning the pulmonary resection whereas incomplete fissures may contribute to post-operative air leakage. The knowledge of variation in the morphology of fissures will be helpful for cardio thoracic surgeons, while performing the segmental resection.

Considering the clinical and surgical importance of such variations, the anatomical knowledge of variations in the fissures and lobes in the lungs may be important for pulmonologists, radiologists, surgeons and clinicians. This would help to reduce the morbidity and mortality associated with lung surgery.

REFERENCES

1. ROSSE, C & PO Gaddum – Rosse, 199. Hollinsheds, text book of anatomy. Lippincott 0-Raven, Philkadelphia, pp.: 441-61.

2. Datta AK, The respiratory system text book of embryology. Current Books International 60, Lenin Sarani, Kolkata, 2010; 6 edition, pp.144.
3. Larsen W., J. 19993. Human Embryology, Churchill Living Stone, New York, pp.111-30.
4. Meenakshi, SK. Manjunath and Balasubaramanyam. Morphology, Variations of the lung fissures and lobes. Indian J. Chest dis, Allied Ssi, 2004; 46: 179-182.
5. Modgil V. Das S. Suri R. Anomalous Lobar pattern of right lung : A case report. Int J Mophol., 2006; 24: 5-6.
6. Aziz A. Ashizawa K, Nagaoki, Hayashi K. High resolution CT anatomy of the pulmonary fissures. J. Thorac. Imaging, 2004; 19: 186.
7. Climen M. Erdil H., Karatepe T. A cadaver with azygous lobe and its clinical significance. Anat. Sci. Int., 2005; 80: 235-237.
8. Traver RD. How common are incomplete pulmonary fissures, and what is their clinical significance ? AJR Am J Roentgenol 1995; 164: 761.
9. Godwin JD, Traver RD. Accessory fissure of the lung AJR Am J Roentgenol. 1995; 144: 39-47.
10. Dv Ha S. Mandal L, Mandal SK, Biswa J et al. Natural fissures of lung. Anatomical basis of Surgical techniques and Imaging. 2013; 3 (2): 117-121.
11. Bhima Devi N, Narasinga Rao B, Sunitha V. Morphological variations of lung - A cadaveric study in North Coastal Andhra Pradesh. Int J Biol Res. 2011; 2 (4): 1149-1152.

Source of support: Nil, Conflict of interest: None Declared