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Anupama N

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Study on Anatomical Variations in Fissures of Lung by CT Scan

M. Manjunath, M. Vishnu Sharma, Kollanur Janso, Praveen Kumar John, N. Anupama, D.S. Harsha

Corresponding author: Dr. Vishnu Sharma

Introduction Refinements in the modern computed tomography (CT) imaging techniques have led to anatomical variations in the fissures of lung being diagnosed more frequently. So far, majority of the studies conducted are cadaveric. There is paucity of studies in this aspect based on chest CT images. Hence, we undertook this study to find the anatomical variations in the fissures. Prior detection of anatomical abnormalities is important to reduce postoperative complications in lung resection surgeries. **Materials and Methods** This was a cross-sectional study conducted over a period of 2 years. Data were collected from the patients who underwent CT scan thorax. Patients in whom normal anatomy of lung was distorted and cases where both lungs were not visualized completely were excluded from the study. All the CT images were reviewed by a single radiologist. The presence or absence of the normal and accessory pulmonary fissures, as well as the continuity of each fissure, was recorded by the radiologist. Data were compiled and analyzed. **Results** The study population consisted of 394 (70.4%) males and 166 (29.6%) females, totaling 560 cases. Fissural variations were detected in 22.9% (n ¼ 128). Also, 17.5% (n ¼ 98) fissural variations were seen in males and 5.4% (n ¼ 30) fissural variations were seen in females. Further, 54.7% (n ¼ 70) of variations were detected in the right lung and 45.3% (n ¼ 58) in the left lung. The most common fissural variation noted was right incomplete oblique fissure with a frequency of 8.4% cases (n ¼ 47). The most common accessory fissure detected was inferior accessory fissure. Total 22 cases were detected in both the lungs, 17 cases in male and 5 in female. **Conclusion** Anatomical variations in fissures were found to be more in the right lung than the left lung. Accessory fissures were detected in higher incidence on the right side.

Keywords: accessory fissures, anatomical variations, CT scan thorax, fissures of lung