عنوان مقاله:

Investigating the Severity of Lung Disease Using Lung CT Scan and Pulmonary Function Tests in Children with Cystic Fibrosis

محل انتشار:

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خلاصه مقاله:

Background: Cystic Fibrosis (CF) is an autosomal recessive disease that has a negative impact on the quality of life in patients. Various methods for assessing lung function and airway obstruction in patients with CF can be used to diagnose and recognize the progression of the disease. Methods: This is a cross-sectional study with a descriptive approach conducted on ۴۵ CF patients aged ۵-۱۸ years. This study investigated the relation between pulmonary disease severity in lung computed tomography (CT) scans, and pulmonary function tests in cystic fibrosis patients referred to our paediatric hospital. Results: The average age of the patients was ۸.۳۳ ± ۲.۹۵ years. ۷۳.۳% had bronchiectasis with different degrees. In oscillometry (IOS) evaluation, ۸.۹% had central obstruction, ۲۸.۹% had total airway obstruction, ۳۷.۸% had peripheral obstruction, and ۲۴.۴% had no obstruction. The spirometry results revealed that ۵۳.۳% of patients had normal spirometry, ۳۵.۶% showed a mild obstruction pattern, and ۱۱.۱% had a moderate obstruction. The results obtained from spirometry and IOS revealed that the total resistance in moderate airway obstruction was significantly higher than other resistances, and there was a significant increase in the severity of moderate obstruction of total airway resistance (P=۰.۰۲۲). Conclusion: Our study showed that CT scan could reveal the complications of cystic fibrosis earlier than pulmonary tests, and it is a reliable tool in evaluating the progress of cystic fibrosis complications and should be considered in the follow-up of patients. Moreover, IOS can help interpret spirometry findings.

کلمات کلیدی:

Cystic fibrosis,,, ,،CT scan findings,,, ,،Oscillometry,,, ,،pulmonary function tests,,, ,،Spirometry,,, ,،Bronchiectasis