

Validity of Spirometric measurements to evaluate COPD

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

﴿قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا
مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ
الْحَكِيمُ﴾

الْحَقُّ
الْعَظِيمُ

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Abstract

This study was done on 300 persons aim to evaluate the different spirometric measure measurements In diagnosis COPD clinical examination and spirometry was done to every subjects in the study to diagnosis and staging of COPD .The study conclude that **FEF₂₅₋₇₅ is more sensitive in early detection of COPD and can be used in staging of Copd**

Key Words:

(COPD, spirometry, spirmetric measurements COPD guidelines- GOLD guidelines – AST/ERS guidelines – BST guidelines)

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List of abbreviation

ATS = American Thoracic Society

BAL = Broncho-alveolar lavage

BTS = British Thoracic Society

Ciba = Central Indiana Bicycling Association

COPD = Chronic obstructive pulmonary disease

CRP = C - reactive protein

ERS = European Respiratory Society

FEV₁ = Forced Expiratory Volume in 1 Second

FEV = forced expiratory volume

FEV₁ / FVC = ratio of FEV₁ to FVC

FEF₂₅₋₇₅ % = forced expiratory flow at 25 – 75 %

FVC = Forced vital capacity

GOLD = Global Initiative for Chronic Obstructive Lung Disease

LLN = Lower limit of the normal range

MVV = maximal voluntary ventilation

PaO₂ = partial pressure of oxygen

PaCO₂ = partial pressure of carbon dioxide

PEF = peak expiratory flow

PFT = Pulmonary Function Test

PEFR = peak expiratory flow rate

RV = residual volume

SAOS = small airways obstructive syndrome

SI = smoking index

SPSS = statistical package for social sciences

SVC = slow vital capacity

TV = tidal volume

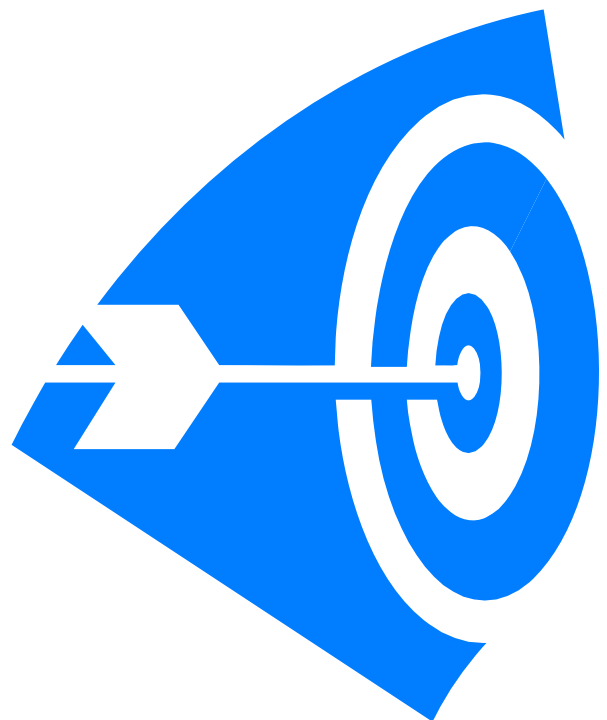
LC = total lung capacity

TSANZ = Thoracic Society of Australia and New Zealand

VC = vital capacity

Introduction

Aim of the study



Introduction

Chronic obstructive pulmonary disease (COPD) remains a major public health problem. It is the fourth leading cause of chronic morbidity and mortality in the United States, and is projected to rank fifth in 2020 in burden of disease worldwide. According to a study published by the World Bank/World Health Organization Yet, COPD remains relatively unknown or ignored by the public as well as public health and government officials. (Gulsvik, 2001)

COPD is a heterogeneous disease with various clinical presentations. The basic abnormality in all patients with COPD is airflow limitation that is not fully reversible. It is primarily caused by cigarette smoking. And many people suffer from this disease for years and die prematurely of it or its complications. (Anto, et al, 2001)

The diagnosis of COPD should be considered in any patient who has the following: symptoms of cough; sputum production; dyspnoea; or history of exposure to risk factors for the disease. The diagnosis and early detection of COPD require spirometry and the early diagnosis allows effective management and treatment. (Dewan et al., 2000)

Spirometry should be obtained in all persons with the following history: (a) exposure to cigarettes smoking and/or exposure to environmental or occupational pollutants. (b) Presence of cough, sputum production or dyspnoea. Multiple measurements are obtained from this maneuver. Those most commonly used for interpretation are (1) forced expiratory volume after 1 second [FEV1], (2) forced vital capacity [FVC], and (3) forced expiratory flow at 25%-75% of maximal lung volume [FEF25-75]. They are expressed as percentages of what is predicted for normal lung function, depending on the variables of height, age, race, and sex. (Ferrer et al., 1999)

Guidelines on diagnosis and treatment of COPD have been published during the last years. The most important are edited by the European Respiratory Society (ERS), The American Thoracic Society (ATS), both from 1995, The British Thoracic Society (BTS) from 1997, and the Global Initiative for Chronic Obstructive Lung Disease (GOLD) from 2000 with annual update. However, the spirometric criteria for COPD differ considerably between the guidelines. (Clotet et al., 2004)

Aim of the study

- The aim of this study is to evaluate validity of the different spirometric measurements in diagnosis and staging of COPD.

Review of literature

