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Application and implications of GOLD guideline on a local COPD population

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Introduction

Under Global Initiative for Chronic Obstructive Lung Disease (GOLD) guideline, patients are categorized into four classes: less symptoms and low risk (class A), more symptoms and low risk (class B), less symptoms and high risk (class C) and more symptoms and high risk (class D). Risk is defined either by number of exacerbations or lung function severity.

Objectives

1. To determine patient distribution based on the two risk criteria 2. To compare differences in exercise tolerance between the two risk groups

Methodology

A multidisciplinary Chronic Obstructive Pulmonary Disease (COPD) clinic has been established at North District Hospital (NDH) to screen patients for pulmonary rehabilitation programme. Spirometry and six-minute walk tests (6MWT) are regularly performed. Number of exacerbations was calculated based on hospitalization, Accident and Emergency Department attendance and prescription of crisis management pack of antibiotics and steroid at outpatient clinics. Mann-Whitney U test was used for statistical analysis.

Result

There were 211 attendances in 2013. Data were excluded for patients who failed spirometry and for re-attendances. Analysis was conducted for the remaining 170 patients. When risk level was defined by lung function, 27 (16%), 33 (19%), 27 (16%) and 83 (49%) patients were classified under GOLD class A, B, C and D respectively. Thus 110 patients were classified as high risk. When risk was defined by exacerbation, 30 (18%), 46 (27%), 24 (14%) and 70 (41%) patients would belong to GOLD class A, B, C and D respectively. Only 94 patients were classified as high risk. There was no significant difference in exercise tolerance between low and high risk groups ($p>0.05$). However, significant difference was found ($p<0.01$) when exercise tolerance was compared between GOLD class D and classes A/B/C patients based on exacerbation or spirometric criteria. Despite the severity of COPD patients based on lung function,

fewer patients were classified as high risk based on exacerbations. However, for class B (high symptom low risk) patients, different support strategies might need to be implemented while their exacerbation status remained low. It is not surprising that exercise tolerance reduction was significant in class D (highest risk and symptom). Other ways to differentiate class C patients may include measurement such as physical activity monitoring.