

EVALUATION OF CLINICAL PROFILE OF ACUTE MYOCARDIAL INFARCTION (AMI) IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

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ABSTRACT

This study was conducted with the aim of evaluating the clinical profile in patients suffering from acute myocardial infarction, with chronic obstructive pulmonary diseases. It was conducted in the department of General Medicine, KR Hospital, Mysore, Karnataka in the period of Nov2010 to May2012. The patients with COPD and AMI was randomly selected and included in the study. A total of 50 patients were taken into the study. The informed consent was obtained from all the patients. Demographic and clinical data were recorded. The data were expressed in numbers and percentage. The maximum number of patients had age between 61-70 years. High percentage of patients was on stage-2 COPD, with age between 61-70 years. 39 patients admitted with breathlessness, 27 had wheezing, 29 had a cough and one patient had vomiting. The maximum number of patients had stage-2 COPD with MI. Breathlessness, wheezing, cough was the most common symptom in patients with COPD and MI.

KEYWORDS: Breathlessness, Cough, COPD, MI, Chest Pain, Wheezing

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is a major cause of morbidity and mortality throughout the world. The prevalence and burden of COPD are projected to increase in the coming decades, due to continued exposure to COPD risk factors and the changing age structure of the world's population. It is projected to rank fifth in 2020, in terms of burden of disease caused worldwide, according to a study published by the World Bank/World Health Organization [1]. The disease causes a heavy burden on the global health care resources. The costs involved in the treatment and evaluation are directly proportional to the pulmonary and the extra pulmonary components of the disease [2]. Systemic complication of COPD includes systemic inflammation, body weight loss, musculoskeletal effects, cardiovascular effects, hematological, neurological, psychiatric effects. The systemic complication reduces quality of life and increases mortality in COPD. Co-morbid conditions are common in COPD and should be actively managed. The patients with COPD have increased risk for cardiovascular events; this is attributed to increased systemic inflammation, which increases the risk of atherosclerosis and ischemic heart disease [3]. The present study was conducted to evaluate the clinical profile of Acute Myocardial Infarction (AMI) in patients, with Chronic Obstructive Pulmonary Disease (COPD).

MATERIALS AND METHODS

A total of 50 patients with COPD and MI, who were admitted in K.R Hospital, Mysore, Karnataka, was included in the study. The study was conducted in the period of November 2010 to May 2012. All the samples were selected by random sampling method. Patients, who are known cases of COPD and patients with clinical features of COPD (cough, sputum production, wheezing, and dyspnea) with acute myocardial infarction were included in the study. Patients with

clinical features of COPD were later (>6 weeks of myocardial infarction) confirmed by spirometry. These patients were subjected to pre and post-bronchodilator pulmonary function test. Those patients, whose post-bronchodilator FEV1/FVC was less than 0.7 were included in the study. Then, according to FEV1, they were classified into Stage I, II, III, IV grades of GOLD classification [4]. The data have been expressed in number and percentage.

RESULTS

Mean age of the studied patients was 61.96 years. Minimum age is 40 years and maximum age being 80 years. The lower age limit of 40 years was selected because; this has been the most frequently available cut off age in the reported studies. Moreover, COPD is rare below this age. The majority of patients were in the age group 61-70 years. In this study, most of the patients were on COPD stage two and three (GOLD Classification). In the present study, 68% of patients presented with breathlessness, 54% with wheezing, 58% with cough, 40% with chest pain, 16% with palpitation, 14% with syncope, 2% with vomiting, 6.6% with swelling of lower limbs, 2% with fever, 4% with sweating and 2% with loose stools.

DISCUSSIONS

Pre-existing chronic obstructive pulmonary disease (COPD) is common in patients with acute myocardial infarction. In high risk patients with acute MI, COPD is associated with increased mortality and cardiovascular event. COPD affects the prognosis of patients with MI. The mean age of the present study population was 61.96 years, which were comparable to Sharafkhaneh et al. [5] Gavin et al. [6] Kohei W et al. [7] Sherimani H et al. [8] and Sode BF et al [9]. It is found that obstructive air way disease is more common in the middle and old age. This is because, the risk of COPD increases with increasing age because it is related to smoking pack years, and aging per se has a cumulative effect of exposure to environmental stress. With improved medical care, the life expectancy tends to increase and with it, the problem of COPD will also increase with advancing age. In the present study, 68% of patients presented with breathlessness, 58% of patients presented with cough, 40% of patients presented with chest pain, these results are comparable with Stephen et al. 66 study. The majority of patients had cough and breathlessness as a major symptom. Study Conducted by Gavin et al. [10] reports that during acute exacerbation of COPD, there is 2.2 fold increased risk for myocardial infarction.

CONCLUSIONS

The study concludes that most of the patients are present with stage-2 COPD. Breathlessness and wheezing is the most common clinical feature in COPD with MI patients.

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APPENDICES

Table 1: Distribution of Patients according to Age

Age (Years)	Number	Percentage (%)
40-50	6	12
51-60	14	28
61-70	19	38
71-80	11	22
Total	50	100

Table 2: Distribution of Patients according to COPD Stage

COPD Stage	Age group (Years)				Total
	40-50	51-60	61-70	71-80	
Stage-1	1	0	4	2	7
Stage-2	4	6	9	6	25
Stage-3	0	6	3	3	12
Stage-4	1	2	3	0	6
Total	6	14	19	11	50

Table 3: Distribution of Patients according to Clinical Symptoms of COPD with MI

Clinical Symptom	Number	Percentage (%)
Breathlessness	39	68
Wheezing	27	54
Cough	29	54
Chest pain	20	40
Palpitation	8	16
Syncope	7	14
Vomiting	1	2
Swelling of lower limbs	3	6.6
Fever	1	2
Sweating	2	4
Loose stools	1	2