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Original Article

Assess Clinical Presentations and Severity of COPD in Study Population

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ABSTRACT

Background: The present study was planned to Assess clinical presentations and severity of COPD in study population.
Introduction: Chronic Obstructive Pulmonary Disease (COPD) is defined by GOLD (Global Initiative for Chronic Obstructive Lung disease)[1] as a preventable and treatable disease with some significant extra pulmonary effects that may contribute to the severity in individual patients.
Material & Methods: The present study included all diagnosed case of COPD of both gender, above the age of 40 years, attending outdoor and indoor of the department of respiratory medicine, the stipulated period, after considering the inclusion and exclusion criteria.
Result: The disease was classified according to Chronic Obstructive Lung Disease (GOLD) criteria, stage I 49(14%), stage II 157(44%), stage III 106(30%), stage IV 43(12%). The difference was statistically significant with a p value <0.05.
Conclusion: Intra- thoracic pressure varies widely in patients of COPD leading to increase in pulmonary artery pressure, RV overload and venous return to the right side of the heart. Together, these alterations lead to RV distension, distortion of interventricular septum and impairment of LV function.

Keywords*: COPD, Pulmonary, Interventricular, LV, RV, GOLD.*

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is a avoidable and remediable disease with some important extra pulmonary properties that may donate to the severity in separate patients. Its pulmonary constituent is categorized by airflow restriction that is not fully changeable. The airflow control is frequently liberal and linked with an irregular inflammatory response of the lung to noxious units or gases[1]. Patients of COPD has shown 7.50% patients had left ventricle (LV) systolic dysfunction and 47.5% patients had evidence of LV diastolic dysfunction.[2]

In one study show that LV function leftovers normal in person with COPD where as other advises that LV dysfunction may be present [3,4] . In another previous study LV systolic dysfunction was present in (4-32)% patients of COPD[5,6] . LV diastolic dysfunction was gotten in COPD patients with normal pulmonary arterial pressure and it increased with right ventricular afterload[7].

MATERIAL & METHODS

All identified case of COPD of both gender, above the age of 40 years, presence outdoor and indoor of the department of respiratory medicine, Dr. Ulhas Patil Medical College and Hospital, Jalgaon over the stipulated period, after considering the inclusion and exclusion criteria.

Inclusion criteria

1. Age more than 40 years.
2. All confirmed stable COPD cases.
3. Willing to participate & give informed consent.

Exclusion criteria

1. Patients with acute exacerbation of COPD
2. Patients with apparent cardiac disease.
3. Patients with ECG findings suggestive of arrhythmia.
4. Pregnant females

Statistical Analysis

Statistical analysis was performed using SPSS. All the data were presented as mean + SD for continuous variables and percentage for categorical variables. A comparison was done between variables using independent students 't'-test. A p-value. A p-value <0.05 was considered as statistically significant.

RESULTS

Table 1: Shows age wise distribution of patients.

Age (Years)	No. of Patients	Percentage
50 to 55	177	50%
56 to 60	58	16%
61 to 65	120	34%

The study period, we got 355 cases of stable mild to moderate COPD in chest out-patient department. Patients were classified into three age groups: age between 50 to 55 years, 56 to 60 yrs and 61 to 65 years (Table – 1). There were 177 (50%) cases in 50 to 55 years age groups, 58 (16%) cases in 56 to 60 years age groups and 120 (34%) in 61 to 65 years age groups. There were 28 (8%) female cases. The percentage of patients between 50 – 55 years was maximum. However this did not represent the true picture of age-wise disease distribution because we had taken a narrow age range between 50 -65 years to avoid over estimation of LV disease.

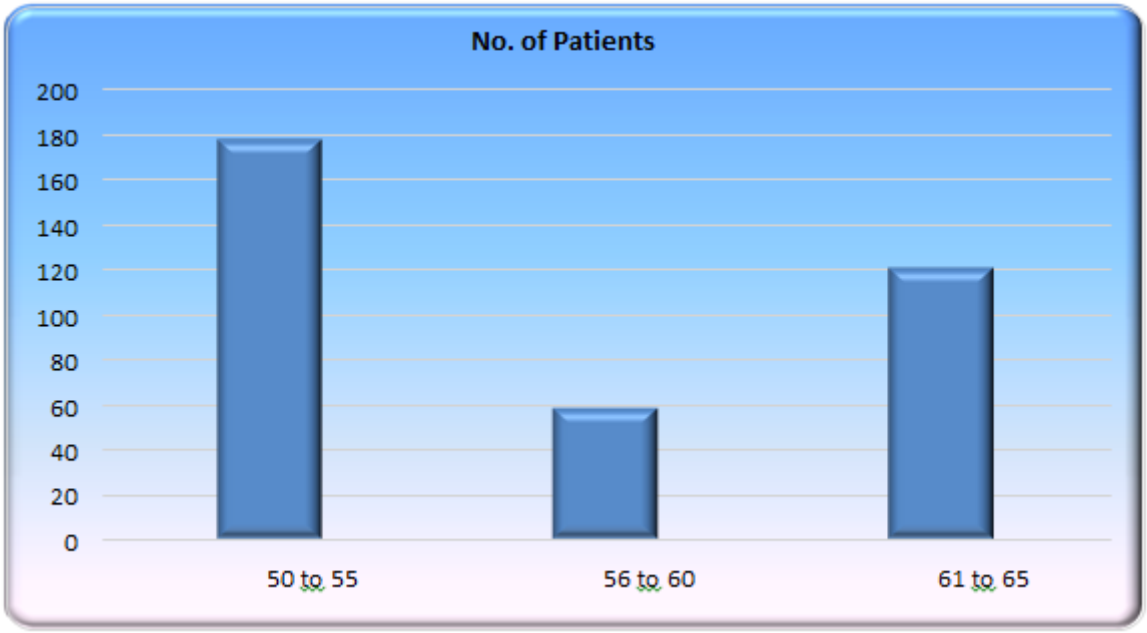
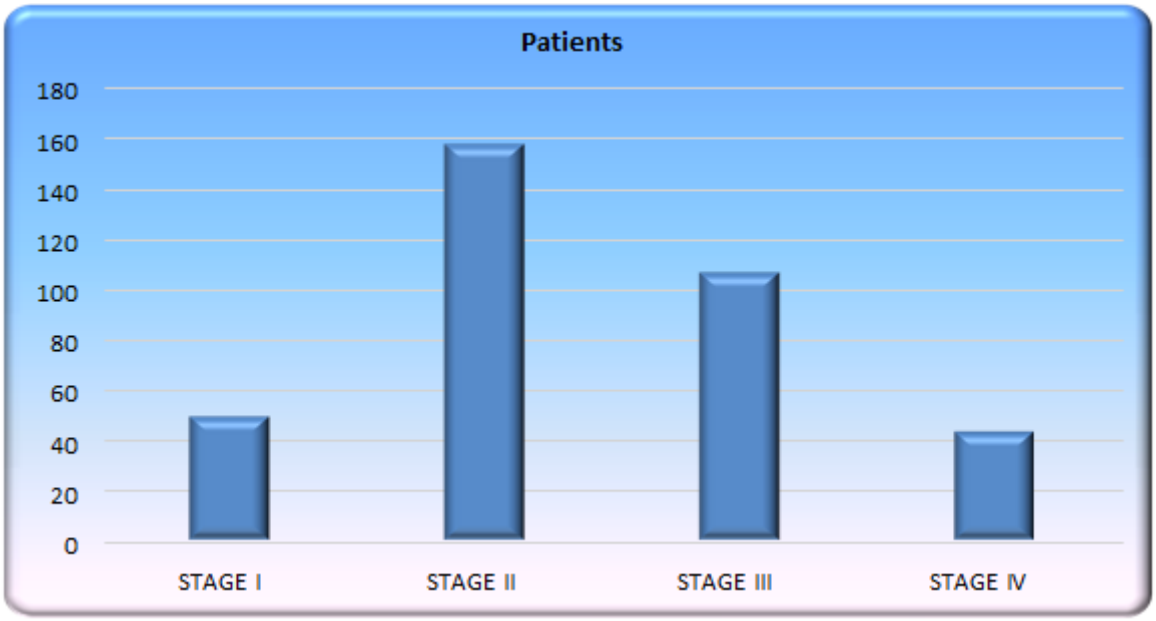


Table 2: Shows staging of the study population according to GOLD criteria.

Stage (GOLD)	No. of Patients	Percentage
I	49	14%
II	157	44%
III	106	30%
IV	43	12%

The disease was classified according to GOLD criteria (Table-2). 49 (14%) patients were in stage 1 disease, 157 (44%) patients were in stage II disease, 106 (30%) patients were in stage III disease and 43 (12%) patients were in stage IV disease. Majority of the patients were in stage II and III (no = 263, 74%). Probably due to lack of awareness of early symptoms of COPD, stage I COPD was missed and we got less number of patients in that stage of disease. We incorporated less number of patients in stage IV as most of patients had poor echo-window.



DISCUSSION

Funk GC et al[8] reported that the maximal atrial filling velocity was increased and the early filling velocity was decreased in patients with COPD compared to control subjects. The early flow velocity peak/late flow velocity peak (E/A) ratio markedly decreased in patients with COPD indicating the presence of left ventricular diastolic dysfunction .The atrial contribution to total left diastolic filling was increased in patients with COPD .That finding was also observed in COPD patients with normal pulmonary artery pressure (PAP), as ascertained using a right heart catheter . The atrial contribution to total left diastolic filling was further increased in COPD patients with higher PAP.

In our study, we found that early flow velocity peak/late flow velocity peak (E/A) ratio was markedly decreased in patients with COPD along with increased values of DT and IVRT.

CONCLUSION

In this study we took all cases of stable COPD, diagnosed on the basis of GOLD criteria attending the department of Chest Medicine during the study period. We excluded the cases with clinical or electrocardiographic evidence of LV disease. Finally I took 355 cases of COPD. Fifty percent cases were between the age group 50-55years, 16% cases were between 56 to 60 years and 34% were between 61 to 65 years. Dyspnea was the main complain found in 72% cases followed by cough found in 28% cases. I found 14% cases were in stage I, 44% cases were in stage II, 30% cases were in stage III and 12% cases were in stage IV GOLD staging. Chest X-ray of the study population revealed hyper-inflated lung in 72% cases and prominent broncho-vascular marking in 28% cases. Electrocardiography showed P-pulmonale in 62% cases, low voltage complex in 16% cases. ECG was normal in 22% cases.

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