



IMPACT OF ANEMIA ON EXACERBATION OF COPD

General Medicine

Dr. Gona Sirisha Grace*

Post Graduate, Dept. Of Pulmonary Medicine, Kurnool Medical College, Kurnool, AP
*Corresponding Author

Dr. K. Sailaja

Professor & HOD, Dept. Of Pulmonary Medicine, Kurnool Medical College, Kurnool,

ABSTRACT

To study the prevalence and type of anemia in patients hospitalized with exacerbations of COPD. To study the hematological changes and degree of dyspnea after treating anemia. To study impact of anemia on quality of life. The current study is a prospective study conducted in the pulmonology department, Kurnool medical college, from July 2018 to June 2019. 120 COPD patients were assessed by the following tests-age, duration of disease, severity of dyspnea, BMI, chest X-Ray, complete blood picture, renal function tests, peripheral smear, C-reactive protein, FEV1. Out of 120 patients, 53 (44.16%) had anemia. Normocytic normochromic anemia is the predominant type. Secondary infections, acute exacerbations, duration of hospital stay, frequent hospitalizations were more in anemic patients. Anemia has a negative impact on the quality of life. Anemia is associated with impaired lung function, increased severity of dyspnea, frequent exacerbations.

KEYWORDS

Anemia, Chronic Obstructive Pulmonary Disease, Quality of life.

INTRODUCTION

The diseases that coexist with a chronic obstructive pulmonary disease (COPD) known as comorbidities. They have a systemic effect on the natural history of the disease and increases morbidity, mortality, and economic burden of the patient.

Usually, COPD is associated with polycythemia due to hypoxemia. Nowadays, its association is less visible due to the rigorous correction of hypoxemia by long term home oxygen therapies.

Anemia is one of the comorbidities most commonly seen in association with COPD due to chronic systemic inflammation of COPD and increasing age.

AIMS & OBJECTIVES

First, to study the prevalence and type of anemia seen in patients with COPD. To analyze the hematological changes and degree of dyspnea in patients with anemia & COPD. To study the effect of anemia on frequent exacerbations of COPD and quality of life in patients.

PATIENTS & METHODS

TYPE OF STUDY	PROSPECTIVE STUDY
STUDY PERIOD	1 YEAR (JULY 2018- JUNE 2019)
CASES STUDIED	120
MALES	107
FEMALES	13
TOTAL PATIENTS WITH ANEMIA	53(44.16%)

FOLLOWING RECORDS ARE COLLECTED AND ANALYZED

- Age
- BMI
- Duration of the disease
- Severity of dyspnea
- Complete blood picture
- Peripheral smear
- Renal function tests
- C-reactive protein
- FEV1
- Chest X-Ray

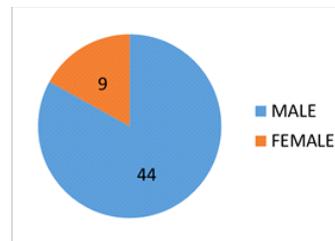
RESULTS & DISCUSSION

- The total number of patients studied was 120.
- Patients with anemia & COPD-53(44.16%).

DISTRIBUTION OF ANEMIA IN MALE AND FEMALE PATIENTS

- Male 44 (83.02%)

- Female 9 (16.98%)



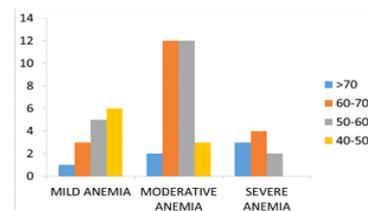
Out of 53 patients with anemia, 40 patients (75.4%) have normocytic normochromic anemia & 13 patients (24.5%) have iron deficiency anemia.

Normocytic normochromic anemia is predominant among COPD patients due to the chronicity of the disease, chronic inflammatory condition, and increasing age.

WHO grading of anemia

- >12 gm - no anemia
- 11 to 11.9 gm - mild anemia
- 8 to 10.9 gm - moderate anemia
- <8 gm - severe anemia

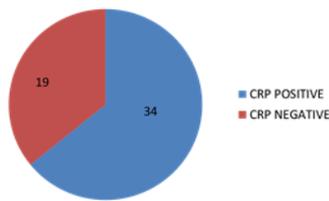
ASSOCIATION BETWEEN GRADING OF ANEMIA AND AGE, SEVERITY OF SYMPTOMS



ANEMIA AND SEVERITY OF SYMPTOMS

	MILD	MODERATE	SEVERE
GRADE II	9(69.2%)	4(30.7%)	
GRADE III	5(21.7%)	15(65.2%)	3(8.69%)
GRADE IV	3(17.6%)	5(29.4%)	9(52.9%)

ANEMIA & C-REACTIVE PROTEIN



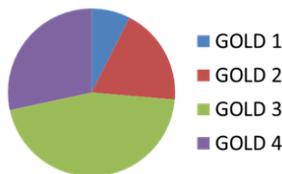
CRP POSITIVE – 34 (64.1%)
 CRP NEGATIVE – 19 (35.8%)

FEV1 / FVC RATIO

MILD – FEV1 more than 80% predicted
 MODERATE – 50 to < 80% predicted
 SEVERE – 30 to < 50% predicted
 VERY SEVERE < 30% predicted

CORRELATION BETWEEN ANEMIA AND GOLD STAGING

GOLD 1 – 4 (7.5%)
 GOLD 2 – 10 (18.8%)
 GOLD 3 – 24 (45.2%)
 GOLD 4 – 15 (28.3%)



CONCLUSIONS

The present study suggests that normocytic normochromic anemia is the predominant type in COPD patients. The severity of the symptoms increased with the severity of anemia. As anemia is of chronic disease in COPD, treating anemia is looked after to reduce the severity of the symptoms and frequent hospitalization. Thereby reducing the morbidity, mortality and economic burden to the patients

REFERENCES:

- [1] Gissel, Tina et al "Anemia in patients with chronic obstructive pulmonary disease - Association with comorbidities." European Respiratory Journal 48,suppl 60 (2016): PA3778. Web. 04 July. 2020.
- [2] WHO. Haemoglobin concentrations for the diagnosis of anaemia and assessment of severity. Vitamin and Mineral Nutrition Information System. Geneva, World Health Organization, 2011 (WHO/NMH/NHD/MNM/11.1)
- [3] Khatana J,Rajta PN and Sarkar M. Anemia in chronic obstructive pulmonary disease:Prevalence, pathogenesis,and potential impact. Lung India. 2015; 32:142-151.
- [4] T. Similowski*, A. Agustri*, W. MacNee* and B. Schoenhofer+, The potential impact of anaemia of chronic disease in COPD, European Respiratory Journal, VOLUME 27 NUMBER 2
- [5] Gan WQ, Man SF, Senthilselvan A, Sin DD. Association between chronic obstructive pulmonary disease and systemic inflammation: a systematic review and a metaanalysis. Thorax 2004; 59: 574–580.