

## **ABSTRACT:**

### **BACKGROUND OF THE STUDY:**

COPD is an important disease of public health Problem around the world. Estimates suggest that COPD will become the third most common cause of death worldwide by 2020(1). COPD is characterized not only by airway inflammation but also by systemic inflammation. Metabolic syndrome is a complex of interrelated medical disorders that increase the risk of developing an atherosclerotic cardiovascular disease and type 2 diabetes. It is well-known that systemic inflammation plays a key role in both COPD and Metabolic Syndrome. Coexistence of COPD and Metabolic syndrome intensifies the systemic inflammation. Various studies showed that systemic inflammation is more severe in COPD patients with Metabolic syndrome than in those without Metabolic Syndrome. Hence this study aims at determining the prevalence of metabolic Syndrome in Chronic Obstructive Pulmonary Disease patients. By screening early For Metabolic Syndrome in COPD Patients, the patient can be treated early and the prevalence of the syndrome can be reduced and this in turn will decrease the incidence of major complications like coronary artery disease and cerebrovascular accident in Chronic obstructive pulmonary disease patients.

### **OBJECTIVES:**

- 1.To determine the prevalence of Metabolic syndrome in Chronic Obstructive Pulmonary Disease

## **MATERIALS AND METHODS :**

It is an hospital based cross sectional study conducted among 100 COPD patients in a outpatient basis over a period of one year who attended Thoracic medicine Department in the Government Vellore Medical College and Hospital, Vellore.

## **RESULTS:**

In our study the prevalence of metabolic syndrome was 46% in COPD patients. Among the COPD patients, the prevalence of Metabolic Syndrome was 53.8% in stage two and three and 18.2% in stage one and four with significant difference between the two groups. The prevalence of Abdominal Obesity, Hypertension, Impaired Fasting Glucose, Elevated Triglycerides, Low HDL Cholesterol was 44%, 50%, 50%, 50%, 48% respectively in our study. And there was significant difference between these components in patients with and without Metabolic Syndrome. In our study inflammatory Markers like C Reactive Protein, total WBC count were elevated in patients with Metabolic Syndrome than patients without Metabolic Syndrome with p value of  $<0.05$ . Body mass index, hip circumference, weight, waist hip ratio, VLDL cholesterol were significantly higher in patients with Metabolic Syndrome than patients without Metabolic Syndrome. Age, gender, smoking, height, total cholesterol, LDL cholesterol, socio economic class, pre bronchodilatation [FEV<sub>1</sub>, (FEV<sub>1</sub>/FVC)], post broncho dilatation [FEV<sub>1</sub>, (FEV<sub>1</sub>/FVC)] were not significantly different between patients with metabolic syndrome and patients without Metabolic Syndrome.

## **CONCLUSION ;**

The prevalence of Metabolic Syndrome in COPD Patients around vellore district was 46% . Among the components of Metabolic Syndrome Hypertension , Impaired Fasting Glucose and Triglycerides were the three components found to be significantly higher in COPD patients. C-Reactive protein ,total WBC count were also significantly higher in patients with metabolic syndrome than patients without Metabolic Syndrome.

## **KEYWORDS:**

Metabolic Syndrome, COPD, Hypertension, Impaired Fasting Glucose.