ABSTRACT

BLOOD EOSINOPHILS AND SERUM IgE LEVELS AS BIOMARKERS IN RESPONSE TO INHALED CORTICOSTEROIDS IN COPD

BACKGROUND:

Airway eosinophilia, hallmark feature of Asthma, is now a recognized inflammatory pattern in COPD. In 10–40% of COPD, eosinophilic airway inflammation has been reported. Smoking (nicotine), a risk factor promotes allergic reactions which cause elevated IgE levels.

OBJECTIVES:

1.To identify COPD exacerbations associated with elevated blood eosinophils

2.To correlate elevated blood eosinophils and serum IgE levels with exacerbation of COPD

METHODOLOGY:

140 COPD patients were studied prospectively for a period of 1 year (Aug 2016 to Aug 2017) in GHTM, Tambaram. Patients with clinical diagnosis of COPD and post-bronchodilator FEV_1/FVC ratio of less than 0.7 as per GOLD criteria considered. Based on ANTHONISEN'S criteria classified as stable COPD & COPD exacerbation. Peripheral blood collected for Absolute Eosinophil Count (AEC) & Serum IgE.

RESULTS:

Among 140 COPD patients, Males-119(85%), Females-21(15%) were between 45-75 years of age group. COPD population belonging to GOLD I,GOLD II,GOLD III,GOLD IV staging were 21(15%), 40(28.5%), 58(41.4%), 21(15%) respectively. Of which, stable COPD were 53 (37.8%) & COPD exacerbations 87(62%). The AEC in stable COPD (468.9) & COPD exacerbation (890.8) while, Serum IgE in stable COPD (1289.5) & COPD exacerbation (2309) was observed. Current smokers showed elevated AEC (747) & Serum IgE levels (2214) compared to nonsmokers with AEC (660) & Serum IgE (646) respectively.

CONCLUSION:

AEC & Serum IgE levels can be considered as biomarkers of COPD exacerbations that allow identification of patients who most likely respond to ICS.

KEYWORDS: Absolute eosinophil count, serum IgE, COPD,smoking.

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