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Profile of metabolic abnormalities seen in patients with asthma and chronic obstructive pulmonary disease

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Objective: To determine the profile of metabolic abnormalities in asthma and chronic obstructive pulmonary disease (COPD) patients.

Methods: This was a cross sectional case controlled study of 40 patients with COPD, 40 patients with asthma and 40 controls. The following were assessed: anthropometric indices, blood pressure, serum lipid profile, fasting blood sugar and spirometric evaluation. We analyzed the differences in metabolic score between these three groups and also the correlation between these scores and patient characteristics.

Results: The prevalence of MetS was 57.5%, 40%, and 30% in asthma, COPD and control group respectively. For the asthma group, low high density lipoprotein (HDL) and abdominal obesity were the commonest metabolic abnormalities. For the COPD group, low HDL cholesterol was the commonest metabolic abnormality. Impaired fasting glycaemia followed by abdominal obesity were the commonest metabolic abnormalities in the control group. Waist circumference, fasting blood sugar (FBS), triglycerides, albumin and diabetes mellitus (DM) correlated significantly with asthma (P>0.05); whereas body mass index (BMI), triglycerides, HDL-Chol, diabetes mellitus (DM) and hypertension (HTN) were correlated significantly with COPD (P>0.05). In multivariate analysis, among the components of MetS, FBS, DM and diastolic blood pressure (DBP) are significantly associated with asthma, whereas DM, DBP, BMI and triglycerides are significantly associated with COPD.

Conclusions: The prevalence of the Mets in persons with asthma appears to be high. Secondly, there is a high prevalence of lipid abnormalities and obesity in all the study groups. Thus, screening for components of metabolic syndrome could form a part of routine work-up of these patients.

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