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Association between Obesity and Asthma

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Objectives: In the recent years, clinical data that shows the association between obesity and asthma has been revealed. Nevertheless, these findings are not adequate to clarify the subject. In our study, we have aimed to evaluate the association between obesity and asthma characteristics in adult asthmatics.

Methods: In this study, we have included 480 adult asthma patients who are diagnosed within our tertiary care hospital settings with at least 1 year follow-up requirement for definitive diagnosis of asthma. Retrospective cross-sectional analysis has been used to analyze clinical data from patient-assigned standardized clinical encounter forms.

Results: 70% (336) of the participants were women, whereas 30% (144) of the patients were man. Mean age was found as 41.4±15.2.In terms of smoking status, 70% of the patients were non-smoker,17.1% were ex-smoker and lastly 12.9% were current smoker. Mean BMI (Body Mass Index) was 26.6±5.4. The percentage of patients who have a BMI value greater than 30 was 21.5% (103). The percentage of female sex status among obese patients was 84.5% whereas females were consisting of 66.8% of non-obese patients ($p<0.001$).The mean age value calculated as 48,2±14,5 for obese patients and 39,6±14,9 for non-obese patients. Smoking habit was less common in obese patients (25.2% of obese patients vs 31.1% of non-obese patients; $p=0.005$).When we compared obese and non-obese patients in terms of common comorbidities, we have found that Diabetes Mellitus ($p<0.001$), Hypertension ($p<0.001$), Coronary Artery Disease ($p=0.001$) and non-classified psychiatric disease ($p=0,002$) were more common in obese participants. Rate of hospitalization due to asthma was higher in obese group ($p=0.001$).Spirometry parameters of %FVC ($p=0.04$), %FEV1 ($p=0.02$) and %MMFR ($p=0.04$) was lower in value within obese asthmatic group. Symptoms, skin prick test positivity, total IgE values and ACT (Asthma Control Test) scores were not different significantly ($p>0.05$) in our study.

Conclusion: These findings suggest that asthma comes to existence in relatively older ages in obese patients. Further research is needed for the association between gender, smoking and obesity to conclude whether gender and/or smoking are risk factors for obese asthma or features of the disease itself. Comorbidities linked to the obesity were more common in obese asthmatics, respectively. Therefore, these comorbidities should be taken into consideration when following obese asthmatics. In spite of lower spirometry results and higher hospitalization ratios due to asthma among obese asthmatics, ACT scores of obese group do not differ significantly from that of non-obese group which is suggestive of similar response to treatment in these two groups.

Keywords: Asthma, comorbidities, obesity