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Title: Assessment of serum leptin level in the Egyptian asthmatic patients

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Body: Background: Asthma is a problem worldwide, with an estimated 300 million affected individuals. Obesity and asthma are both chronic conditions affecting millions worldwide. Aim: To assess serum leptin levels in obese and non- obese patients with bronchial asthma. Methods: This study was performed on 120 asthmatic patients, 60 patients (50%) were obese and 60 patients (50%) were non- obese according to BMI. According to the GINA guidelines, they were classified into; mild, moderate, severe and very severe asthma. Serum leptin level measurement for all patients was done after 8 hours fasting, by ELISA technique. Results: Serum leptin level showed a significant increase in serum of obese asthmatics (23.2 ± 3.8) than non- obese asthmatics (7.9 ± 3.1). There was a highly significant increase in serum leptin level in obese asthmatic females than in non-obese asthmatic females with the same degree of asthma ($p < 0.001$), and in obese asthmatic males than in non-obese asthmatic males with the same degree of asthma ($p < 0.001$). Also, there was a highly significant increase in serum leptin level in obese asthmatic females than obese asthmatic males with the same degree of asthma ($p < 0.001$) and in non-obese asthmatic females than non-obese asthmatic males with the same degree of asthma ($p < 0.001$). The results of this study showed a significant positive correlation between serum leptin level and grades of asthma as well as a significant negative correlation between serum leptin level and FEV₁, FVC and FEV₁/FVC ($p < 0.001$). Conclusions: The high serum leptin level in asthmatic patients is related to, and affected by; the high BMI, female gender and degree of asthma severity. Key words: serum leptin, bronchial asthma, obesity.