

### Study on serum Leptin level of children with Asthma

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**Abstract:** Based on epidemiological studies, incidence of asthma and obesity is rising in parallel and the obesity is associated with severe asthma and its poor medical treatment response. The changes in immune system function by means of some mediators like Leptin is effective in coincidence asthma and obesity. The aim of this study was evaluation of Leptin levels in children with asthma and its relation with treatment and the affected children's Body mass index (BMI). In a cross sectional descriptive analytic study in pediatric disease department of Tabriz university of medical sciences, we evaluated the serum level of Leptin in children with asthma. The Leptin level in patients with asthma was  $29.60 \pm 29.25$  and in control group was  $6.34 \pm 6.52$  respectively which was significantly higher in the case group ( $P < 0.001$ ). Serum level of Leptin in patients with periodic asthma was  $9.26 \pm 10.90$  and in patients with persistent asthma was  $36.74 \pm 30.38$  that Serum level of Leptin was significantly higher in patients with persistent asthma than periodic asthma ( $P < 0.001$ ) and also Serum level of Leptin in patients with severed persistent asthma was  $46.97 \pm 33.88$  that significantly higher ( $P < 0.001$ ). Mean of serum level of Leptin in patient's with good response to treatment was  $9.26 \pm 10.90$ , in patient's with moderate response to treatment was  $22.74 \pm 21.12$  and in patient's with poor response to treatment  $40.01 \pm 29.25$  that significantly higher in patient's poor response to treatment ( $P = 0.004$ ). In patients with asthma, a significant positive liner correlation was found between Serum level of Leptin with age, height, weight, weight Percentile-for-age and BMI. In patients of control group, a significant positive liner correlation was found between Serum level of Leptin with weight, Weight Percentile-for-age, BMI, BMI Percentile-for-age and BMI z-score-for-age.

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