

### **Short and Mid-Term Effects Of Transcatheter Atrial Septal Defect Closure Treatment On Nutritional Hormones**

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#### **Objectives:**

The aim was to investigate the changes in nutritional hormones of patients before and after the transcatheter closure of Atrial Septal Defect (ASD).

#### **Method:**

The study was prospective and case-control and carried out in our Pediatric Cardiology Clinic. 27 ASD patients (14 girls, 13 boys, age:12-197 months) and as control group, 26 healthy subjects (13 girls, 13 boys, age:10-187 months) were enrolled in the study. Blood samples were collected from all children early in the morning. Insulin growth factor-1 (IGF1), insulin growth factor binding protein-3 (IGFBP-3) and their z scores (sds), insulin, total protein, albumin parameters were evaluated. Serum ghrelin and leptin levels were measured using ELISA technique. Laboratory tests and appetite evaluation were repeated at the 1st and 6th month controls in the patient group.

#### **Results:**

When the initial laboratory parameters of the patients and control group compared; ghrelin and leptin level was higher than the control group ( $p>0,05$ ). IGF-1 sds, IGFBP-3 sds levels were lower in the patient group, but differences were not statistically significant. In the ASD group IGF-1 ( $p=0,007$ ), IGF-1 sds ( $p=0,014$ ) levels were revealed statistically significant higher at first control according to initial levels. There was rise in leptin, IGFBP-3, total protein and albumin levels and decrease in ghrelin level but differences were not statistically significant. Anorexia group ( $n=13$ ) was compared to non-anorexia group ( $n=14$ ) with laboratory tests. There was no statistically significant difference. The anorexia was decreased at the first control and was described in only 3 patients. Of the 27 patients who underwent transcatheter ASD closure, 7 patients did not come to the 6th month control visit. Initial, 1st, 6th month controls of the 20 patient were compared within themselves; it was found that ghrelin level decreased linearly among 6 month follow-up. However, differences were not statistically significant.

**Conclusion:** Nutritional deficiency and growth retardation are important problems in patients with ASD. Positive effects on nutritional hormones have been demonstrated in surgical treatments. In our study, we demonstrated the positive effects of transcatheter closure treatment on nutritional hormones.