

# SERUM FETUIN-A LEVEL FOR DIAGNOSIS HEPATIC STEATOSIS IN CHILDREN WITH TYPE 1 DIABETES MELLITUS

Kurtoglu S<sup>1</sup>, Dogan M<sup>1</sup>, Hatipoglu N<sup>1</sup>, Muhtaroglu S<sup>2</sup>, Doganay S<sup>3</sup>, Gul U<sup>1</sup>.

Erciyes University Medical Faculty, 1-Pediatric Endocrinology Department, 2- Biochemistry Department, 3-Pediatric Radiology Department

**Background:** Type 1 Diabetes Mellitus (T1DM) is one of the chronic disease frequently encountered in childhood and the non-alcoholic fatty liver disease is one of the uncommon complications in the management of these patients.

**Objective and hypotheses:** In this study, we aimed to investigate the relationship between serum fetuin-A levels which a negative acute phase reactant and the non-alcoholic fatty liver disease in T1 diabetic patients.

**Methods:** Serum fetuin-A levels were measured and liver ultrasonography were performed in addition to the routine tests to 80 patients ( Male/Famele:1/1) which had T1DM at least 5 years. Patients were divided in to two groups, with/without hepatic steatosis (HS+/HS-) according to ultrasonography. Two groups were compared for age, gender, anthropometric parameters (waist/neck circumference, body mass index (BMI), lean body mass (LBM), body fat ratio), serum lipid profile, liver function tests, DM duration, daily insulin requirements, glycemic controls and serum fetuin-A levels.

**Results:** Eighth (10%) patients presented hepatic steatosis (Grade 1). The BMI, body fat ratio, waist circumference, HbA1c, ALT, GGT and total cholesterol levels were significantly higher in HS+ group than HS-. There was no difference between two groups for age, DM duration, neck circumference, LBM, BMI at the time of diagnosis and insulin requirements. The median level of fetuin-A HS + cases was 619.84 microg / mL, HS- cases was 378.36 microg / ml and the levels difference was statistically significant (p <0.001). Hyperlipidemia, poor glycemic control, BMI, waist circumference and body fat ratio was positive correlated with serum fetuin-A levels.

**Conclusion:** We conclude that hepatosteatosi is more common with T1DM cases who had poor glycemic and metabolic control, in addition fetuin-A is a reliable parameter for diagnosis and follow up T1DM patients with hepatic steatosis.

