

PANCREAS

Fatty pancreas linked to increased BMI and insulin resistance in children

Nonalcoholic fatty pancreas disease (NAFPD), the ectopic accumulation of fat in the pancreas, is associated with obesity and metabolic dysfunction in adults; however, little is known about its pathogenic consequences in children.

In a new study, investigators from the Bambino Gesù Children's Hospital, in Rome, Italy, enrolled 121 children (mean age 13.16 years) who had evidence of hepatic steatosis. The patients were then divided into two groups: those who had evidence of NAFPD ($n = 58$), and those who did not ($n = 63$), to evaluate how NAFPD affects metabolic parameters.

Compared with patients who only had hepatic steatosis, those individuals with NAFPD had significantly higher BMI (27.51 vs. 29.29 kg/m²; $P = 0.04$), higher insulin levels (18.11 vs. 24.29 mU/l; $P = 0.001$) and insulin resistance (HOMA index 3.72 vs. 4.86; $P = 0.01$).

Of the original 121 patients, 67 underwent a liver biopsy. In these

patients the presence of NAFPD was also associated with elevated levels of TNF (55.46 vs. 79.01 ng/l; $P = 0.03$) and IL-1 β (18.37 vs. 11.15 pg/ml; $P = 0.001$). These results indicate that these patients had low-grade inflammation, which might contribute to the pancreatic fat deposition.

The investigators believe that the accumulation of ectopic pancreatic fat should be classified as an additional risk factor for metabolic and β -cell dysfunction and that children who have hepatic steatosis should undergo screening for diabetes mellitus and related diseases.

Tim Geach

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