ASSOCIATION OF FASTING TRIGLYCERIDES TO HIGH-DENSITY LIPOPROTEIN RATIO WITH RISK FOR METABOLIC SYNDROME IN CHILDREN

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Atherosclerosis begins in childhood and progresses silently. Triglycerides/HDL ratio (TG/HDL) is a risk factor for cardiovascular diseases.

Aim:
To investigate TG/HDL as possible predictive factor for metabolic disorders in children.

Methods:
Descriptive correlation, with 110 children (6-12 years old) in Sparta, Greece. Anthropometric and biochemical analyzes were performed.

Results

- ROC analysis showed that the TG/HDL has a high sensitivity (73.7%) and specificity (68.1%) for diagnosing MetSyn with 1 as a cutoff point.
- For the total population, the relative probability that a child suffers from MetSyn with a TG/HDL≥1 is almost six times greater than when a child has TG/HDL<1 (OR=5.986; 95% CI=1.968–18.205).

Children without predisposition for MetSyn

- As the TG/HDL increases
  - the body weight (p=0.035),
  - uric acid levels (p=0.002),
  - and CAD (p<0.001) also increase.

Children with predisposition for MetSyn

- Children with TG/HDL≥1 had 3.5 times greater odds for increased value of uric acid (OR=4.519; 95% CI=0.393-51.988).
- Additionally, TG/HDL ratio is positively correlated with CAD (p<0.001).

Conclusion

- Atherosclerosis is associated with TG/HDL due to the high concentration of both triglycerides and very low density lipoprotein in plasma which leads to the production of small, dense LDL particles during the lipolysis.
- Previous studies report that the TG/HDL>4 in adults is a powerful predictive factor for the coronary disease.
- The current study showed that children may be affected for metabolic disorders when TG/HDL>1.