

Low T3 syndrome due to metabolic acidosis/ketoacidosis in type 1 diabetes mellitus

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Conclusion: Low T3 syndrome should not be interpreted as hypothyroidism, but as a protective mechanism during an acute stressful metabolic event in Type 1 DM. The level of fT3 partly reflects the metabolic derangement.

Background:

The insulin deficiency leads to metabolic imbalance with hyperglycemia, acidosis and proneness to ketosis. This may acutely affect thyroid metabolism.

Aims:

To examine the correlation between fT3 and BE, pH, HCO₃, anion gap, HbA1c, IAA, IA2, GADAb

Methods:

n = 48 patients (30 females; mean age: 9.4a ± 4.1
Correlation (Spearman test): r(s)

Results:

- fT3 and pH, BE, HCO₃, anion gap, HbA1c: significant
- fT3 and IAA, IA2, GAD, BMI: not significant
- Metabolic acidosis: low T3 in 86%
- Ketoacidosis: low T3 in 91%
- fT3 normalisation during 3-5 days

