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Study of the gut enterotypes in some Egyptian patients with Type 1 diabetes mellitus

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Introduction: Gut microbiota cluster into three enterotypes named the *Bacteroides, Prevotella* and *Ruminococcus*. While each person's microbial "fingerprint" is unique, there are specific patterns seen in those that are healthy and those that have specific illnesses.

Objective: The objective of the present study was to identify the enterotypes that are possibly associated with Type I Diabetes Mellitus (T1DM) Egyptian patients as well as their possible role in the course of the disease.

Subjects & Methods: The study included 40 T1DM patients as well as control group of 20 healthy subjects of matched age and sex. Stool specimens were taken from each. Quantitative SYBR Green Real-Time PCR was done for the identification and quantitation of *Bacteroides, Prevotella* and *Ruminococcus* which constitute the core of the three major enterotypes.

Results: Enterotype 1 was the most common enterotype detected in T1DM and control cases (75% versus 65% respectively) with no significant differences between the two groups (P=0.418). Regarding enterotype 2 no significant differences was noted between T1DM patients and control group (25% vs. 35% respectively P=0.324). For enterotype 3, it was detected neither in patients with T1DM nor in control cases.

Conclusion: There was no significant difference in the distribution of enterotypes in all study groups. Therefore, collapsing the whole microbiome variations into dominant enterotypes was not appropriate to identify disease association or to be used as a disease biomarker.

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