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**ABSTRACT**

Titel:

The Association Between the Adipokine C1QTNF1 and Type 2 Diabetes is Significantly Modulated by Obesity

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Das Abstract soll folgenderweise gegliedert sein:

* Einleitung und Fragestellung
* Material und Methoden
* Ergebnisse
* Schlussfolgerungen

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C1q and tumor necrosis factor related protein 1 (C1QTNF1) is an adipokine which has recently captured attention as a modulator of various metabolic pathways. As shown in animal and in vitro studies C1QTNF1 enhances glucose and fatty acid oxidation and improves insulin sensitivity. Paradoxically, C1QTNF1 serum levels were found to be elevated in patients with type 2 diabetes (T2DM).

To further elucidate the role of serum C1QTNF1 in T2DM, we investigated its association with metabolic parameters linked to T2DM in 542 patients undergoing coronary angiography for the evaluation for established or suspected stable coronary artery disease.

In the total study cohort, C1QTNF1 was significantly (p-values <0.001 for all comparisons) increased in patients with T2DM, the metabolic syndrome (MetS), as well as in obese patients (defined as BMI ≥30 kg/m2). Further, C1QTNF1 was positively correlated with BMI, fasting glucose, HbA1c, CRP, and the homeostatic model assessment (HOMA) index of insulin resistance (all p-values <0.001), but not with the HOMA index of beta-cell function (p>0.05). Subgroup analyses with respect to obesity revealed that the association between C1QTNF1 and T2DM was highly significant in obese patients (p<0.001), but not in non-obese subjects (p=0.076). An interaction term obesity x C1QTNF1 was significant (p = 0.018), indicating a significantly stronger association between C1QTNF1 and T2DM in obese patients than in non-obese subjects. Similarly, the association between C1QTNF1 and the MetS was significant only in obese patients (p=0.009), but not in non-obese subjects (p=0.074).

We conclude that obesity significantly influences the association between C1QTNF1 serum levels and T2DM and should be considered in further studies evaluating the relationship of C1QTNF1 with metabolic traits.