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Triacilgliseroller içeren serum doymuş yağ asitleri total serum triacilgliserol konsantrasyonlarına göre insülin direncinin daha iyi markerleridir.

Kotronen A, **Velagapudi VR**, **Yetukuri L**, **Westerbacka J**, **Bergholm R**, **Ekroos K**, **Makkonen J**, **Taskinen MR**, **Oresic M**, **Yki-Järvinen H**.

Tıp Departmanı, Diyabet Bölümü, Helsinki Üniversitesi Merkez Hastanesi, Helsinki, Finlandiya.

AMAÇLAR/HİPOTEZ: İnsülin direnci ile The weak relationship between insülin resistance and total serum triacylgliserols (TGs) could be in part due to heterogeneity of TG molecules and their distribution within different lipoproteins. We determined concentrations of individual TGs and the yağ asidi composition of serum and major lipoprotein particles and analysed how changes in different TGs and yağ asidi composition are related to features of insülin resistance and abdominal obesity.

YÖNTEMLER: We performed lipidomic analyses of all major lipoprotein fractions using two analytical platforms in 16 individuals, who exhibited a broad range of insülin duyarlılık.

BULGULAR: We identified 45 different TGs in serum. Serum TGs containing doymuş and tekli doymamış yağ asitleri were positively, while TGs containing essential linoleik asit (18:2 n-6) were negatively correlated with HOMA-IR. Specific serum TGs that correlated positively with HOMA-IR were also significantly positively related to HOMA-IR when measured in very-düşük dansiteli lipoproteins (VLDLs), intermediate-density lipoproteins (IDLs) and LDL, but not in HDL subfraction 2 (HDL(2)) or 3 (HDL(3)). Analyses of proportions of esterified yağ asitleri within lipoproteins revealed that palmitik asit (16:0) was positively related to HOMA-IR when measured in VLDL, IDL and LDL, but not in HDL(2) or HDL(3). Tekli doymamış palmitoleik (16:1 n-7) and oleik (18:1 n-9) acids were positively related to HOMA-IR when measured in HDL(2) and HDL(3), but not in VLDL, IDL or LDL. Linoleik asit was negatively related to HOMA-IR in all lipoproteins.

SONUÇLAR/YORUM: Serum concentrations of specific TGs, such as TG(16:0/16:0/18:1) or TG(16:0/18:1/18:0), may be more precise markers of insülin resistance than total serum TG concentrations.