The relationship between insulin-like growth factor-1 and metabolic syndrome, independent of adiponectin.


Source

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Abstract

BACKGROUND:

Insulin-like growth factor-1 (IGF-1) is associated with obesity and aging, and was recently linked to metabolic syndrome (MetS) and insulin resistance. However, little is known about the relationship between IGF-1 and adiponectin (adiponectin), another marker of MetS.

METHODS:

We measured the plasma IGF-1 and adiponectin levels of 3099 subjects (1869 males, 55.9±10.8 y). We applied the Korean-modified International Diabetes Foundation (k-IDF) criteria for determination of, and risk assessment for, MetS.

RESULTS:

K-IDF criteria-based MetS occurred in 37.0% (n=1146) of patients. IGF-1 (91.5 vs. 97.3 ng/ml, p<0.001) and adiponectin (3.95 vs. 4.23 μg/ml, p<0.001) were significantly lower in MetS patients than without MetS. Lower IGF-1 was associated with increasing numbers of MetS abnormalities, independent of adiponectin (p for trend<0.001, F=12.615, p<0.001 in ANCOVA). MetS prevalence in individuals with both high IGF-1 and adiponectin levels (6.7%, n=206) was significantly lower than in other groups. Both high IGF-1 and adiponectin group was associated with reduced MetS risk after adjusting for other confounding factors (OR 0.694, 95% CI 0.493-0.977, p=0.036).

CONCLUSIONS:
IGF-1 was associated with MetS independent of adiponectin in our study. The independent relationship between IGF-1 and MetS provides insight into the pathophysiologic mechanisms of MetS.

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