**Format**: Abstract



Am J Cardiol. 2004 Apr 22;93(8A):23A-29A.

# Metabolic effects of orally administered amino acid mixture in elderly subjects with poorly controlled type 2 diabetes mellitus.

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## Abstract

The reduction of muscle mass and increased protein catabolism in aging can determine the occurrence of metabolic alterations-such as hyperglycemia and reduced insulin sensitivity-in elderly subjects with diabetes mellitus. Therefore, the aim of the study was to evaluate the effect of nutritional supplementation with oral amino acid mixture (OAAM) in elderly subjects with type 2 diabetes. This approach was conducted in an attempt to antagonize muscle catabolism by means of increased endogenous protein synthesis and to improve glucose metabolism and insulin sensitivity. A randomized, open-label, crossover study was conducted in poorly controlled (glycosylated hemoglobin level [HbA(1c)] >7%) elderly subjects (age range, 65 to 85 years) with type 2 diabetes. OAAM significantly reduced fasting and postprandial blood glucose and HbA(1c), whereas all parameters remained substantially unchanged in the group treated with placebo. Fasting insulin levels and insulin resistance increased at baseline in all subjects with diabetes and decreased during OAAM supplementation. These results persisted also after crossover from OAAM to placebo. No changes in blood lipid levels, creatinine, homocysteine, and urinary albumin excretion rate were observed throughout the study, whereas a mild but significant increase of high-density lipoprotein cholesterol was found after OAAM supplementation. We suggest that increased amino acid availability for skeletal muscle function and strength could ameliorate metabolic control and insulin sensitivity in elderly patients with poorly controlled type 2 diabetes.

PMID: 15094102 DOI: 10.1016/j.amjcard.2003.11.006

[Indexed for MEDLINE]

## Publication types, MeSH terms, Substances

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