



Review

L-arginine and cardiovascular system

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Abstract:

L-arginine is a basic endogenous amino acid. Its significant metabolic role as the product of ammonia detoxification, the urea cycle metabolite, the precursor of proteins, ornithine, urea and creatinine, and the amino acid involved in the formation of active enzyme centers was very well established. The current interest in this amino acid refers mainly to its close relation with an important signal molecule nitric oxide (NO). Literature review demonstrates that L-arginine, the only substrate of the NO production, affects cardiovascular system (blood vessels and heart). The majority of experimental and clinical studies clearly show a beneficial effect of L-arginine on endothelium in conditions associated with its hypofunction and thus with reduced NO synthesis. Some clinical studies involving healthy volunteers or patients suffering from hypertension and diabetes indicate that it may also regulate vascular hemostasis. Moreover, experiments performed on animals and *in vitro* data also suggest that L-arginine may have a complex antiaggregatory, anticoagulatory and profibrinolytic effect. Therefore, a novel therapeutic potential of L-arginine should be taken into consideration.

Key words:

L-arginine, cardiovascular system, hemostasis
