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IS ALPHA LIPOIC ACID USEFUL IN OBESITY TREATMENT? A NARRATIVE REVIEW OF CLINICAL EVIDENCE

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ABSTRACT

Alpha-lipoic acid (ALA), also known as thioctic acid, is an organic compound naturally produced in our body and is also found in foods of plant and animal origin. Despite being relatively abundant in a variety of foods, its dietary intake is relatively small. As we age, the amount of alpha-lipoic acid synthesized in the body drops. Alpha-lipoic acid is widely available as a dietary supplement and is used by various population groups; nowadays especially young recreational athletes. While healthy individuals should be cautious of the potential intoxication and side-effects, no adverse effects were reported in people with health issues including metabolic syndrome, dyslipidemia, diabetes and insulin resistance, and polycystic ovary syndrome. Alpha-lipoic acid poses a high antioxidant potential, and its positive effects on fat and glucose metabolism and anti-inflammatory properties are well documented. Yet, clinical trials assessing the effect of alpha-lipoic acid on weight control are rather sparse. Given the extent of obesity problem globally, finding strategies which could boost weight loss in combination with energy restricted diets and increased physical activity are much needed. Pathophysiology of obesity is complex and far more than just an excessive weight, but simplified, it involves a complexity of metabolic, hormonal, inflammatory and pro-oxidative alterations which manifest as a variety of health issues. Current evidence suggests that alpha-lipoic acid alters carbohydrate and fat metabolism on the cellular level, affects insulin secretion in the pancreas, acts as antioxidant and prevent damage caused by oxidative stress and has anti-inflammatory activities. We summarize available clinical evidence on the lesser-known anti-obesity properties of alpha-lipoic acid.

KEYWORDS: alpha-lipoic, acid, obesity, metabolic abnormalities, clinical trials.

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