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THERAPEUTIC EFFECTS OF ARGININE

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ABSTRACT

Arginine is a semi essential amino acid and precursor of nitric oxide which is potent vasodilator if persons include arginine rich food in moderate amounts in their diet then he or she could save from many ailments. Today life is very hectic and tedious and it's very important for choosing their diet. Arginine is very important amino acid and building block of human body.

KEYWORDS: arginine, precursor, ailments, hectic, tedious.

Role of Arginine in coronary heart disease

Coronary heart disease or ischemic heart disease is leading cause of death worldwide. Hypertension, diabetes, hyperlipidemia and smoking major predisposing factor. High intake of liquor, obesity and sedentary life style also predisposes to atherosclerosis (narrowing lumen of tunica intima).

Arginine improved the ability of angina sufferers to exercise. Detailed studies have proven that arginine works by stimulating blood vessel dilation.

Nitro-glycerine and similar drugs cause dilation of arteries by interacting with nitric oxide, a potent stimulus for dilation. Nitric oxide is made from arginine, a common amino acid. Blood cells in people with angina are known to make insufficient nitric oxide, which may in part be due to abnormalities of arginine metabolism. Taking 2 grams of arginine three times per day for as little as three days has improved the ability of angina sufferers to exercise. Seven of ten people with severe angina improved dramatically after taking 9 grams of arginine per day for three months in an uncontrolled study. Detailed studies have investigated the mechanism of arginine and have proven it operates by stimulating blood vessel dilation.

The body needs arginine to make nitric oxide, which increases blood flow. This process is impaired in people with CHF. It also has been shown to improve kidney function in people with CHF.

The body needs arginine, a semi essential amino acid, to make nitric oxide, which increases blood flow. This process is impaired in people with CHF.

People with low libido & fertility

Blood vessels need arginine to dilate and form an erection. Supplementing with arginine has been shown to help men with erectile dysfunction in some studies.

Dilation of blood vessels necessary for a normal erection depends on a substance called nitric oxide, and nitric oxide formation depends on the amino acid arginine. In a preliminary trial, men with ED were given 2,800 mg of arginine per day for two weeks. Six of the 15 men in the trial were helped, though none improved while taking placebo. In a larger double-blind trial, men with ED were given 1,670 mg of arginine per day or a matching placebo for six weeks. Arginine supplementation was found to be particularly effective at improving ED in men with abnormal nitric oxide metabolism. Although little is known about how effective arginine will be for men with ED or which subset of these men would be helped, available research looks promising and suggests that at least some men are likely to benefit.

The amino acid arginine is needed to produce sperm. Research shows that several months of L-arginine supplementation increases sperm count, quality, and fertility.

Arginine, an amino acid found in many foods, is needed to produce sperm. Research, most of which is preliminary shows that several months of L-arginine supplementation increases sperm count, quality, and fertility. However, when the initial sperm count was extremely low (such as less than 10 million per ml), L-arginine supplementation produced little or no benefit. While some pregnancies have been attributed to arginine supplementation in preliminary reports, no controlled research has confirmed these claims. For infertile men with sperm counts greater than 10 million per millilitre, many doctors recommend up to 4 grams of L-arginine per day for several months.

Immune function of the body

The amino acid arginine has a role in immune function, infection prevention, and tissue repair after injury, including surgery.

The amino acid arginine has a role in immune function, infection prevention, and tissue repair after injury, including surgery. Animal research suggests that supplemental arginine may improve the outcomes in cardiovascular and colon surgeries. Other animal studies suggest a possible role for arginine in prevention of adhesions, a painful type of internal scarring that can occur with surgery. Human trials of formulas including arginine are discussed below, but the benefits of supplemental arginine alone have not been studied in surgery patients.

For pregnant women to prevent malignant hypertension

One study in which pregnant women at an increased risk of developing preeclampsia received either arginine or a placebo, the arginine group had a significantly lower incidence of preeclampsia compared with the placebo group.

In a double-blind study, 100 pregnant women at increased risk of developing preeclampsia received 3 grams of arginine once a day or a placebo, starting in the 20th week of gestation and continuing until delivery. The incidence of preeclampsia was significantly lower by 74%, People with pulmonary hypertension (a life-threatening complication of sickle cell anaemia) who received L-arginine had significant improvement in one study. In a preliminary study, individuals with pulmonary hypertension (a life-threatening complication of sickle cell anaemia) received L-arginine in the amount of 100 mg per 2.2 pounds of body weight, three times per day for five days. L-arginine treatment resulted in a significant improvement in pulmonary hypertension, as determined by a 15% decline in the pulmonary artery systolic pressure.

For body builders and athletes

At very high intakes, the amino acid arginine has increased growth hormone levels, which stimulate muscle growth. Trials combining weight training with arginine and ornithine showed decreases in body fat and increases in total strength and lean body mass.

At very high intakes (approximately 250 mg per 2.2 pounds of body weight), the amino acid arginine has increased growth hormone levels, an effect that has interested body builders due to the role of growth hormone in stimulating muscle growth. However, at lower amounts recommended by some manufacturers (5 grams taken 30 minutes before exercise), arginine failed to increase growth hormone release and may even have impaired the release of growth hormone in younger adults. Large quantities (170 mg per 2.2 pounds of body weight per day) of a related amino acid, ornithine, have also raised growth hormone levels in some athletes.

High amounts of arginine or ornithine do not appear to raise levels of insulin, another anabolic (bodybuilding) hormone. More modest amounts of a combination of these amino acids have not had measurable effects on any anabolic hormone levels during exercise.

Nonetheless, double-blind trials conducted by one group of researchers, combining weight training with either arginine and ornithine (500 mg of each, twice per day, five times per week) or placebo, found the amino-acid combination produced decreases in body fat, resulted in higher total strength and lean body mass, and reduced evidence of tissue breakdown after only five weeks.

To check gastric ulcer formation

Amino acid arginine may both protect the stomach and increase its blood flow.

Various amino acids have shown promise for people with gastritis. In a double-blind trial, taking 200 mg of cysteine four times daily provided significant benefit for people with bleeding gastritis caused by NSAIDs (such as aspirin). Cysteine is a sulphur-containing amino acid that stimulates healing of gastritis. In a preliminary trial, 1–4 grams per day of NAC (N-acetyl Cysteine) given to people with atrophic gastritis for four weeks appeared to increase healing , another amino acid is a main energy source for cells in the stomach and supplementation may increase blood flow to this region. Patients in surgical intensive care units often develop gastrointestinal problems related to a glutamine deficiency. When burn victims were supplemented with glutamine, they did not develop stress ulcers, even after several operations. Nevertheless, it remains unclear to what extent glutamine supplementation might prevent or help existing gastritis. Preliminary evidence suggests the amino acid arginine may both protect the stomach and increase its blood flow, but research has yet to investigate the effects of arginine supplementation in people with gastritis.

For hypertensive patient

The amino acid arginine is needed by the body to make nitric oxide, a substance that allows blood vessels to dilate, thus reducing blood pressure. Arginine given orally and intravenously has been reported to help reduce blood pressure.

The amino acid arginine is needed by the body to make nitric oxide, a substance that allows blood vessels to dilate, thus leading to reduced blood pressure. Intravenous administration of arginine has reduced blood pressure in humans in some reports. In one controlled trial, people

not responding to conventional medication for their hypertension were found to respond to a combination of conventional medication and oral arginine (2 grams taken three times per day.

For wound healing & repair

Arginine appears to improve wound healing by increasing protein synthesis.

Arginine supplementation increases protein synthesis and improves wound healing in animals. Two controlled trials have shown increased tissue synthesis in surgical wounds in people given 17–25 grams of oral arginine per day.

Rich sources of arginine

Strict vegetarian normally deficient in arginine chicken, beef, turkey rich sources others include walnut, almond, pine nut, lentils, soybean, peanuts, chickpea etc. Excessive amounts arginine should be avoided it may cause bloating & diarrhoea.