Garlic: Crush it for Greater Health Benefits

Crushing fresh garlic may increase the health benefits of the herb by preserving its healthy compounds during cooking, a new study suggests.

Argentinean researchers along with scientists from the University of Wisconsin explained that the raw form of garlic and some of its preparations are widely recognized as antiplatelet (blood clot inhibiting) agents that may contribute to the prevention of cardiovascular disease.

The study examined the *in-vitro* antiaggregatory activity (IVAA) of human blood platelets induced by extracts of garlic samples that were previously heated (in the form of crushed versus uncrushed cloves) using different cooking methods and intensities. The concentrations of allicin and pyruvate, two predictors of antiplatelet strength, were also monitored.

The study found that oven-heating at 200 degrees Celsius (400 degrees Fahrenheit) or immersing in boiling water for three minutes or less did not affect the ability of garlic to inhibit platelet aggregation (as compared to raw garlic), whereas heating for six minutes completely suppressed IVAA in uncrushed, but not in previously crushed, samples. The latter samples had reduced, yet significant, antiplatelet activity.

Prolonged incubation (more than 10 minutes) at these temperatures completely suppressed IVAA. Microwaved garlic had no effect on platelet aggregation. However, increasing the concentration of garlic juice in the aggregation reaction had a positive IVAA dose response in crushed, but not in uncrushed, microwaved samples.

The addition of raw garlic juice to microwaved uncrushed garlic restored a full complement of antiplatelet activity that was completely lost without the garlic addition. Garlic-induced IVAA was always associated with allicin and pyruvate levels.

Researchers concluded that allicin and thiosulfinates are responsible for the IVAA response; crushing garlic before moderate cooking may reduce the loss of activity; and the partial loss of antithrombotic effect in crushed-cooked garlic may be compensated by increasing the amount consumed.

Reference: 1) Cavagnaro PF, Camargo A, Galmarini CR, et al. Effect of Cooking on Garlic (Allium sativum L.) Antiplatelet Activity and Thiosulfinates Content. J Agric Food Chem. 2007 Feb 21;55(4):1280-1288. Epub 2007 Jan 27.