Garlic and the Potential Medical Benefits

By Anjulina MaComber

Garlic is not only used in traditional Italian dishes, but it also contains a few health benefits. For centuries garlic has been used as a natural medical ingredient in both a fresh plant and supplement form. Researchers have studied the potential in garlic for medical uses and have published their findings.

The Natural Sciences and Engineering Research Council of Canada and the Ontario Ministry of Innovation funded the research behind the medical benefits of garlic. It is believed by researchers that the compound, allicin, gives garlic its flavor and aroma while acting as the world's most potent antioxidant. Until now researchers were unclear as to how allicin works. Researchers were unsure how allicin would compare to the well-known antioxidants, including coenzyme Q10 and Vitamin E. These common antioxidants stop the radicals' damaging effects.

The leader of the study, Derek Pratt, admitted to not understanding at first how garlic contains an efficient antioxidant considering it has no significant amount of the compound types to blame for excessive antioxidant activity in plants. The chemistry professor went on to say that if allicin was in fact responsible for the activity in garlic, then they wanted to know how it all worked.

The ability of allicin in garlic to trap the damaging radicals effectively was questioned by the research team. They considered a possibility that the product of the decomposition of allicin may be responsible instead. The researchers conducted tests with synthetically produced allicin and found that an acid, known as sulfenic acid, was produced once the compound decomposes that

quickly reacts with the radicals. The research team's discovery was published and can be found the 2009 January issue of *Angewadte Chemie*, an international chemistry journal.

Dr. Pratt goes on to explain that the allicin compound would need to be decomposed in order to produce a powerful antioxidant. He notes that the reactions between radicals and sulfenic acid is practically as fast as it can get. This is only limited by the time it will take for the molecules to come in to contact with one another. No one has seen compounds react so quickly as antioxidants, whether they are natural or synthetic.

Dr. Pratt is positive that there is a link existing between the medical benefits of garlic and the reactivity of sulfenic acid. Although garlic has been considered to possess medical benefits for years, there has been no explanation as to why there are potential benefits to garlic.

As with shallots, onions and leeks, garlic is a part of the Alliaceae family. The other plants contain a compound which is much like allicin but they fail to contain the same medical properties. This is believed to stem from the slower decomposition rate of the allicin analogs in leeks, shallots and onions. This leads to a decreased availability level of sulfenic acid that is needed to react as the radicals with antioxidants.

Garlic and its antioxidants are thought to be responsible for easing every day health concerns such as assisting with babies gaining weight and strengthening the immune system. Pregnant women may use garlic or garlic supplements with traditional medicine prescribed by a doctor to help their fetus gain some weight before giving birth.

It is believed that garlic will fight chest infections, congestion and cough. Some people use extra garlic throughout the winter months to boost their immune system. This with the addition of traditional medicine is said to help people get through the cold season smoothly. Although garlic is believed to contain potential medical benefits, it is not to be used in place of traditional medicine. The two are designed be used together to help with any medical problems.

Sources:

ScienceDaily

WebMD

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