Genistein is a phytoestrogen, a naturally occurring substance with estrogen-like properties. There are two main types of phytoestrogens: isoflavones and lignans. Soy is the most common food source of isoflavones, and, in turn, genistein is the most abundant isoflavone in soy. Red clover is also a good source of genistein.

Based on its estrogen-like properties, genistein has been studied as a substitute for hormone replacement therapy. It has shown some promise for treating symptoms that occur early in menopause, such as hot flashes, as well as for problems that occur later, such as osteoporosis.

A study published in 2007 in the prestigious *Annals of Internal Medicine* confirms earlier research regarding genistein’s benefits for osteoporosis. In this double-blind trial, 389 postmenopausal women with mildly reduced bone density were first put on a low-soy diet for four weeks to make sure they didn’t have any genistein in their system. Participants were then given either placebo or 54 mg of genistein daily for 24 months. In addition, all participants were given calcium and vitamin D.

The primary end point evaluated by the researchers was bone density in the hip and spine. The results were quite positive. At the end of the study, bone density had increased in participants given genistein, while it decreased in those given placebo; furthermore, this difference was statistically significant. As an additional plus, genistein did not produce the typical, and harmful, estrogen-like effects on the uterus. However, genistein did cause significant gastrointestinal side effects in almost 20% of those taking it.

These findings are definitely promising. However, the study does have some limits. The participants all had mild bone loss, technically osteopenia. It is not clear whether genistein would work for the more severe bone loss of true osteoporosis. Furthermore, the study was not designed to determine whether genistein could reduce the rate of fractures due to osteoporosis, which is the most important issue. Osteoporotic fractures are related not only to bone density, but also to the structure of bone, and it is not yet clear whether genistein is helpful in this regard. Finally, it is not clear how genistein compares to the modern non-hormone treatments for osteoporosis, especially drugs in the bisphosphonate family.

For more information, see the full articles on genistein and on osteoporosis.

REFERENCES: