

Soy and plants to ease menopause

Richard Béliveau

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A randomized clinical study reports that women who eat a diet rich in plants and soy are much less affected by hot flashes typical of menopause.

Episodic hot flashes affect over 75% of women who reach menopausal age. These sensations of intense heat are frequently felt in the chest, neck and face areas, and are accompanied by sweating and general discomfort that affects sleep, mood and general well-being.

Hot flashes can start a few years before menopause itself (defined as 12 months without menstruation) and usually last one or two years, but can sometimes continue for up to 30 years after menopause.

From a physiological point of view, these hot flashes are called vasomotor symptoms, that is, they are caused by excessive dilation of the blood vessels.

The exact mechanisms seem to involve the drop in circulating estrogen levels that leads to a disruption of the body temperature control system. The brain's hypothalamus (wrongly) senses a sudden rise in body temperature and activates the two systems immediately involved in dissipating that heat - vasodilation of blood vessels and sweating.

DIET AND MENOPAUSE

Although hormone therapy remains the most common way to treat symptoms associated with menopause, several observations suggest that other lifestyle factors may also play a role.

For example, a study carried out in the 1980s in Japan showed that Japanese women were less affected by these hot flashes than women living in Western countries (1), a phenomenon also observed in other Asian countries.

One thing these women have in common is the heavy consumption of foods made from soy (tofu, miso, tempeh), a legume containing significant amounts of phytoestrogens such as the isoflavones genistein, daidzein and glycitein.

One of these molecules, daidzein, is metabolized by intestinal bacteria to equol, a non-steroidal compound that binds to estrogen receptors, and it has been proposed that this interaction could help mitigate the impact of the drop in estrogen that occurs during menopause.

In this sense, it is interesting to note that the Japanese diet has become considerably westernized in recent years (more meat, less soy) and that this transition has been accompanied by an increase in the incidence of hot flashes (2).

SYMPTOM REDUCTION

The results of a randomized clinical study suggest that the nature of the diet can indeed strongly influence the frequency and severity of menopausal symptoms (3).



In this study, the researchers recruited women who reported two or more episodes of hot flashes per day and randomly separated them into two groups, a control group with no changes in their eating habits and an intervention group, where the participants were on an all-plant diet that included 1/2 cup of cooked soy beans per day.

Over a 12-week period, participants recorded hot flashes using a mobile app and the impact of these symptoms on their quality of life was assessed using a standard questionnaire (Menopause Specific Quality of Life Questionnaire).

The results are spectacular: the sum of hot flash episodes decreased twice as much in the intervention group compared to the control (79% vs. 49%), a particularly marked decrease was observed for more severe episodes (84% vs. 42%).

More interestingly, at the end of the study 59% of the participants in the intervention group no longer had any moderate or severe heat episodes, while no change was observed in the control group.

These reductions in the frequency and severity of symptoms are much greater than those seen previously in soy studies.

According to the authors, it is likely that it is the combination of a diet rich in plants with soybeans that would explain this superiority: a diet mainly based on the consumption of plants modifies the intestinal microbiome and promotes the implantation of bacteria specialized in the conversion of isoflavones to equol, the molecule responsible for their estrogenic effects.

This possibility remains to be established, but one thing is certain, it is an avenue worth exploring by women who are struggling with severe symptoms of menopause and who are looking for a way to improve their quality of life.

- (1) Lock M. Menopause: lessons from anthropology. *Psychosom Med.* 1998 ; 60 : 410-419.
- (2) Melby MK. Vasomotor symptom prevalence and language of menopause in Japan. *Menopause* 2005 ; 12:250-257.
- (3) Barnard ND et al. The Women's Study for the Alleviation of Vasomotor Symptoms (WAVS): a randomized, controlled trial of a plant-based diet and whole soybeans for postmenopausal women. *Menopause* (Published online, July 12th 2021)