'Green' Alternatives Posed for Preserving BMD

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GLASGOW, SCOTLAND — Soy products and dietary supplements containing a high level of flavonoids may be alternatives to chemoprevention of osteoporosis and prostate cancer, so long as consumption is moderated to limit the potential for side effects, investigators said at the 8th European Congress of Endocrinology.

Much of the evidence supporting the benefits of dietary soy comes from epidemiologic studies and analyses of disease patterns in Asians who change their diets after migrating to the West, according to Eva Lydeking-Olsen, a nurse practitioner and nutritionist with the Institute for Optimum Nutrition in Copenhagen.

When it comes to bone protection, epidemiologic studies and double-blinded placebo-controlled trials of soy lasting at least 6 months have shown mixed results. Four of 12 such studies have shown no benefits, as measured by dual-energy x-ray densitometry scans of bone mineral density (BMD), while eight have, said Ms. Lydeking-Olsen.

The eight showing a bone-protective effect focused on at-risk groups, so it was likely that continuing loss of bone mass in the control group affected the outcomes of the study, she said.

Consumption of 50-90 mg of isoflavones appears to have a beneficial effect, roughly the same as drinking two glasses of soy milk per day, she said.

"In the case of soy foods it is advisable to ask the manufacturer about the amount of isoflavones in specific brands of soy milk and soy yogurt, and also use foods such as natural, roasted soy flakes—on muesli, mixed in hot cereal or sprinkled over the salad—or soy nuts as a snack, as very little [isoflavone is] lost in those natural products," she said in an interview.

Another expert, however, warned that the there is evidence that behavior of isoflavones could potentially have the same negative effects as estrogen, such as stimulating growth of uterine and breast tissues, leading to tumors.

"There is good evidence that lifelong intake of these isoflavones can be beneficial," said Dr. Wolfgang Wuttke, professor of clinical and experimental endocrinology at the University of Göttingen. "But these are prepubertal effects.

"The evidence is so controversial that the [Food and Drug Administration] … would never allow sale of these substances as a drug," said Dr. Wuttke "Why should I recommend substances which I am not sure are safe and might be useless?"

But when it comes to prostate cancer, Dr. Wuttke said that he believes there may be benefits for older men with increased isoflavone consumption.

Among the most studied of the isoflavones influencing prostate health is genistein, which may slow with the growth of prostate cells by influencing the hormone-metabolizing enzymes and reducing the sensitivity of the primary targets of androgen hormones such as the androgen receptor, said Dr. Helmut Klocker, a specialist in urology at Innsbruck (Austria) University Hospital.

Unlike with osteoporosis and soy, Dr. Klocker said there are no double-blinded placebo-controlled studies demonstrating the preventive effect of genistein.

"The problem with these [studies] is they would have to be performed over many years," he said in an interview. "To my knowledge, it is not clear if there is a beneficial effect at any [specific] time in life. There is also some evidence that exposure to genistein and related substances is most efficient during growing up and puberty, and even during embryogenesis. You can imagine that it is almost impossible to investigate this in controlled trials."

In a phase II trial sponsored by the National Cancer Institute, scientists are recruiting patients to test both the effectiveness and potential toxicity of genistein among men with stage I and stage II prostate cancer.

The trial plans to randomize 88 patients undergoing radical prostatectomy into two groups. One group will receive oral genistein once daily for 1-2 months, undergo the prostatectomy, and then continue the genistein regimen for 1-2 months afterward. The other group will undergo the prostatectomy first, and begin a 3-month genistein regimen 1 month after the surgery. The trial will test the reduction in prostate-specific angigen–positive cells in the operative field and quality of life at baseline and 1 and 3 months after surgery, Dr. Klocker said. ■