

Cadmium in diet may increase breast cancer risk

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Ingesting higher levels of cadmium, a metal found in fertilizers, may be linked to an increased risk of breast cancer, a new study from Sweden suggests.

The results showed that postmenopausal women with a relatively high daily dietary cadmium intake had a 21 percent increased risk of breast cancer.

The major sources of cadmium in the diets of women in the study were foods that are generally healthy — whole grains and vegetables. These accounted for about 40 percent of the cadmium consumed.

The reason for the link may be that cadmium can cause the same effects in the body as the female hormone estrogen, the researchers said. Estrogen fuels the development of some breast cancers.

Whole grains and vegetables generally protect against cancer, and people should not avoid these foods because of this study, said study researcher Agneta Åkesson, associate professor at Karolinska Institutet in Sweden.

The study showed an association, not a cause-and-effect link, in one population of women, and further work is needed to confirm the findings.

"Though no single observational study can be considered conclusive, this very large, prospective study of [cadmium] exposure and post-menopausal breast cancer makes an important contribution to what is a fairly sparse literature considering this very important topic," said Michael Bloom, a professor at the School of Public Health at the University of Albany, who was not involved in the study.

Cause for concern?

"It has been known for some time that cadmium is toxic and, in certain forms, carcinogenic," said study researcher Bettina Julin, of the Karolinska Institute of Environmental Medicine.

In the study, the researchers collected data from more than 55,000 women in Sweden for 12 years. The women kept a daily log of everything they ate. The researchers estimated how much cadmium the women's consumed based on the country's data on the amount of cadmium in foods, and divided the women into three equally-sized groups based on their intake.

Over the course of the study, there were 2,112 breast cancer cases among the women: 677 in the women in the lowest cadmium intake group, and 744 in the women in the highest cadmium intake group. Because women's risk of breast cancer rises with age, the researchers took the women's ages into account when calculated the increased risk seen in the high intake group.

The researchers said they are concerned that cadmium is found in foods we consider healthy. The metal is well-absorbed by farmed plants, and fertilizers used to help grow our fruits, vegetables and grains contain cadmium.

The researchers noted that whole grains and vegetables, which were found to contain the most cadmium, have many beneficial nutrients — some that likely counteract the negative effects of the toxic metal.

And the data showed that women who ate the most whole-grain foods and vegetables, even when these foods contained cadmium, were less likely to develop the cancer than women who ingested high levels of cadmium through other types of food.

The highest risk of breast cancer was found among women who had a high cadmium intake, but ate few whole grains and vegetables.

Potatoes, root vegetables such as carrots, and cereal grains can accumulate cadmium from fertilizer and environmental deposits. Other types of food known to have a higher cadmium content include shellfish, organ meats and sunflower seeds.

Balancing act

"A major limitation of such a large-scale study is the exposure assessment," said Alfred Bernard, of the department of medicine

at Catholic University of Louvain in Belgium. In other words, the researchers estimated cadmium intake, and that may not accurately reflect the actual amount consumed or the absorbed by the body.

Still, because of the high incidence of breast cancer, compared with other types of cancers among women, "even a modest increase in risk will stimulate a substantial public health concern," Bloom said.

Some researchers aware of the link of cadmium and cancer are taking reasonable precautions. "I have reduced my consumption of sunflower seeds considerably," Carolyn Gallagher, of the Department of Preventive Medicine at Stony Brook University in New York, told MyHealthNewsDaily. Sunflower seeds have a relatively high level of cadmium.

Getting enough iron may also reduce the body's uptake of dietary cadmium, which may help reduce risk, Gallagher said.

The findings are published today (March 15) in the journal *Cancer Research*.