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Dieldrin Linked to Breast Cancer

A new study from Denmark indicates that exposure to organochlorine compounds such as pesticides may increase the risk of breast cancer. Some organochlorine compounds act like estrogens in the body and may stimulate the growth of estrogen-sensitive breast tumors. In Denmark, about 14% of all women develop breast cancer, and the incidence has more than doubled in the past 30 years.

In 1976, blood samples were drawn from over 7,000 Danish women who were enrolled in a health study in Copenhagen. In the following 17 years, 268 of these women developed breast cancer. The original blood samples were analyzed in 1993 for 46 chlorinated chemicals including the pesticides DDT, mirex, aldrin, dieldrin and others. Of the compounds examined, only dieldrin was significantly elevated in the blood of women who developed breast cancer.

The study revealed that women exposed to dieldrin had about twice the risk of developing breast cancer, compared to unexposed women. Furthermore, a significant dose-response relationship was evident -- the more dieldrin in the blood, the greater the chance that breast cancer would develop. The study found no correlation between breast cancer and DDT.

Pernille Hoyer, one of the scientists who conducted the study, was quoted as saying: "Dieldrin has been shown in laboratory tests to be able to attach to the estrogen receptors of breast cancer cells and to initiate tumor growth or proliferation of the cells." She went on to say that the study provides further proof that chemicals that mimic the female hormone estrogen may increase a woman's risk of developing breast cancer. "What I think is important about these results is that they support the hypothesis about endocrine disruptors -- that they are dangerous," Hoyer added.

From the 1950s until the 1970s, dieldrin was a popular pesticide for agricultural crops such as corn and cotton in countries throughout the world. It is on the list of PAN International's Dirty Dozen pesticides and is now banned in over 67 countries. Current negotiations for the POPs (persistent organic pollutants) treaty are also targeting dieldrin as well as eight other pesticides for elimination.

Sources: Annette Pernille Hoyer and others, "Organochlorine Exposure and Risk of Breast Cancer," *Lancet*, December 5, 1998; Rachel's Environment & Health Weekly #640, March 4, 1999; "Pesticides Linked to Breast Cancer," *Reuters*, December 4, 1999.



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