

Ask the Doctor: September. **DDT: Not the only toxin that causes breast cancer.**

(8/30/15)

In last month's issue of "Ask the Doctor" I reviewed the issue of environmental toxins. It was noted in the article that the majority of women who are diagnosed with breast cancer have no family history of either breast or ovarian cancer.

We label breast cancers that occur in women with no family history as sporadic cancers. Translated, it simply means we have no idea what is causing those cancers that do not have a hereditary origin.

One theory that has been proposed as a possible cause of sporadic cancers is exposure to environmental toxins. One of the first scientists to propose this theory was Rachael Carlson. In her bestselling book, *Silent Springs*, (published in Sept 1962) she eloquently explained how the indiscriminate spraying of the pesticide DDT was not only killing songbirds (thus the title) it was also having an adverse effect on public health.

Shortly after her book was published, she went public with her concern that exposure to DDT could increase a woman's risk of developing breast cancer.

Less than a year later she was diagnosed with advanced breast cancer. She died in April of 1964 and thus did not have enough time to explore her theory about DDT and breast cancer risk.

Her book met with fierce opposition from the chemical companies. They labeled her research as unscientific, and suggested she was some kind of environmental wacko. In turn, Rachael accused the chemical companies of spreading disinformation. She also accused public officials of being too eager in accepting claims from industry.

She testified before congress on multiple occasions. Eventually, her ideas gained traction. In December of 1972 DDT spraying was banned in the USA. Despite the ban, DDT was still manufactured for export until the early 1980's. One of the largest producers of DDT was the Montrose Chemical Corp. located in L.A. County.

Over the years the Montrose Company dumped millions of pounds of DDT into the L.A. sewer system, which drains two miles off shore in the Palos Verdes Shelf. Over time, this became the world's largest known deposit of DDT. The contamination persists and fishing in this area is still restricted.

Although there were setbacks in Rachael's life, her book, Silent Springs, has

become a classic. She is considered to be the founder of the environmental movement. Her efforts also laid the foundation for the formation of the EPA (Environmental Protection Agency), which is the agency responsible for evaluating toxins in the environment.

It has taken more than 5 decades from the time of Rachael's death to prove that her suspicions that DDT exposure could increase a woman's risk of developing breast cancer were correct.

A recent study was reported in which 9,300 pregnant women agreed to have their blood drawn to evaluate their level of DDT. During the period of follow-up, 118 daughters of these women developed breast cancer before the age of 52.

The researchers compared the blood levels of the mothers of the 118 daughters to the blood levels of DDT in a much larger number of mothers whose daughters did not develop breast cancer.

The results showed that the daughter of mothers with the highest levels of DDT were at 4 times the risk of developing breast cancer as compared to the daughters whose mothers had low levels of DDT.

As the skeptics like to point out, this is not proof of cause and effect. Still it is a

remarkable study demonstrating that exposure to DDT in the womb is associated with a major increase risk of developing a future breast cancer.

It is likely that the developing fetus is particularly vulnerable to levels of DDT that may well be tolerated in adult women. I find this observation to be extremely disturbing. It suggests the possibility that other toxins that are judged to be safe under standard conditions may prove to be unsafe to the developing fetus.

Since DDT production was halted in the early 1970s, it is no longer a concern, but there are hundreds of other toxins that may have a similar impact on the developing fetus. Many of these toxins have been proven to cause cancer in laboratory animals.

The EPA has defined levels of exposure that are safe for most of these chemicals. However, the science behind what is safe is imprecise. What is a safe level for one person may be toxic to another. We have every reason to assume that the developing fetus and the developing breasts are more vulnerable to exposure than is the case for adult women. It is also possible that exposure to multiple low dose toxins may have a more adverse impact than exposure to a single toxin at a higher concentration.

An example of a toxic chemical that is ubiquitous in the environment is Bisphenol-A or, as it is commonly known as BPA. In many ways BPA is like DDT in that it is a

hormone disruptor. This means that BPA, like DDT, has the potential to disrupt the delicate balance of hormones in a woman's body, which in turn makes her more vulnerable to developing a breast cancer.

BPA is found in many common household products such as the hard clear lining of baby bottles and in clear plastic food containers. It is also found in the lining of cans which contain food products.

The FDA seems confident that the low levels of BPA exposure are safe. However, recent studies from Canada indicate that women who work in factories that produce plastic products are at increased risk of developing breast cancer. Women with the highest blood levels of BPA were at 5 times the average risk of developing breast cancer.

Not surprisingly the chemical companies dispute these findings.

It is also not surprising that there is widespread lack of confidence in the EPA's ability to adequately address the issue of environmental toxins. The recent contamination of pristine Colorado Rivers with millions of gallons of toxic wastes is but one recent reminder of the EPA's inability to effectively deal with major environmental problem.

The challenge of protecting the public from environmental toxins is enormous. The EPA lacks the funding and the clout to effectively meet this challenge. In addition, industry has too much clout over decisions made by the EPA, and just like most large governmental agencies, the EPA is bureaucratic and inefficient.

There are no easy answers to the challenge of protecting one's family from toxins in the environment. In the next "Ask the Doctor" I will outline practical steps that can be taken to lowering your personal risk of exposure to toxins. I will also suggest steps that could be taken to deal with this issue on a more global basis.

Contact us at: if you have questions or suggestions.

End ask doc September 2015