What is the link between dioxin and endometriosis?

In the early 1990s, the Endometriosis Association studied a group of monkeys that had been exposed to the chemical dioxin. Seventy-nine percent of the group developed endometriosis within ten years after their dioxin exposure.

The severity of endometriosis found in the monkeys related directly to the amount of TCDD (2,3,7,8-tetrachlorodibenzo-p-dioxin) – the most toxic form of dioxin – to which they had been exposed.

In one of several other studies, mice with implanted endometrial tissue were treated with dioxins or “nondioxinlike” chemicals. Endometriosis increased in the dioxin-treated mice.

Where does dioxin come from?

Dioxin is a toxic byproduct of industrial and consumer processes that involve the manufacturing or burning of chlorine or substances that contain chlorine along with organic (carbon-containing) matter. At 535-750 degrees Fahrenheit (280-400 degrees Celsius) dioxin is generated and released into the environment.

The main sources of dioxins are medical and municipal waste incineration, garbage burning, chemical and plastic manufacturing, metals smelting, and pulp and paper bleaching. One large source of dioxin is PVC (polyvinyl chloride, commonly known as “vinyl”) plastic. For more details, see the chapter called PVC and Me in the Endometriosis Association’s book, Endometriosis: The Complete Reference for Taking Charge of Your Health.

How am I exposed to dioxin and what are its effects?

Dioxin formed during incineration is released into the air and travels via air currents, contaminating fields and crops. Cattle and other livestock eat the crops, and the dioxin enters their tissue. Humans then eat the contaminated animal products.

We are exposed to dioxin mainly through our food. Government agencies such as the U.S. Environmental Protection Agency and Environment Canada estimate over 90% of our dioxin exposure comes from meat, dairy, poultry, and fish products.

Dioxin’s half-life is 7 to 14 years. This means it will take 14 to 28 years for the dioxin you consume today to break down in your body. This does not take into account any dioxin you consumed yesterday or will consume tomorrow.

Dioxin exposure damages the immune system, leading to increased susceptibility to infectious disease. Dioxin can disrupt the proper function of the endocrine (hormone) system by acting as one of the body’s natural hormones.

Many scientists agree that by the age of 18, humans are already “full” of dioxin. Individuals living in high exposure areas (i.e., agricultural, pulp and paper, and incinerating communities) are believed to reach the “full” amount at an earlier age.

Female reproductive effects include endometriosis, decreased fertility, inability to maintain pregnancy, miscarriages, ovarian dysfunction, and hormonal changes.

Is more information available?

These websites contain more in-depth information:

- www.NotTooPretty.org
- www.OurStolenFuture.org
- www.environmentalhealthnews.org

Contact us to request copies of materials from the Endometriosis Association and our environmental health coalition partners.