

Uterine Fibroids and DES Daughters

Additional Confirmation of an Increased Risk

“Prenatal Diethylstilbestrol Exposure and Risk of Uterine Leiomyomata in the Nurses’ Health Study II,” Struthi Mahalingaiah et al. *American Journal of Epidemiology*, Volume 179 Issue 4 February 15, 2014.

Reviewed by Kari Christianson

Within the last ten years, several U.S. research articles have investigated a potential link between prenatal DES exposure and uterine fibroids in DES Daughters. These studies had interesting—and sometimes conflicting—findings.

The latest research comes from the Nurses’ Health Study II, which recently investigated whether pre-

natal DES exposure increases the incidence of uterine fibroids (leiomyomata) in women. The women with prenatal DES exposure were found to have a 12% increased incidence of uterine fibroids, particularly among those prenatally exposed to DES during the first three months in the womb.

The study gathered health information from 102,164 premenopausal women for 20 years, from 1989 to 2009. At the start of the study the nurse participants were premenopausal and had intact uteri with no prior history of uterine fibroids or cancer; some of the women included prenatal DES exposure in their med-

continued on page 3

Uterine Fibroids

continued from page 1

ical histories.

This report suggests that early DES exposure in the first trimester may be associated with a small, but statistically significant, increased incidence of uterine fibroids. Uterine fibroids are benign tumors that may cause pain and bleeding, as well as infertility and pregnancy problems. Uterine fibroids are the leading reason for a hysterectomy.

Struthi Mahalingaiah, M.D., Assistant Professor of Obstetrics and Gynecology at Boston University School of Medicine, indicates that two factors may compromise these results from the Nurses’ Health Study II, which links DES exposure to an increased uterine fibroid risk: 1) participants may receive more thorough gynecological exams, which result in an increased detection of uterine fibroids among the study participants, and 2) recall bias, meaning DES exposure was suspected but could not be confirmed.

Interestingly, the National Institutes of Health (NIH) Sister Study by the National Institute of Environmental Health Sciences (NIEHS) had similar findings in 2010 and 2012

among their participants with prenatal DES exposure. (VOICE issues #124 and #132) These two studies reported the early development of uterine fibroids, before the age of 35, among women who listed probable DES exposure in their medical histories. The women listing definite DES exposure did not show an increased risk for uterine fibroids. The Sister Study follows the health of over 50,000 women whose sisters had breast cancer.

An earlier NIEHS study, published in 2005, found more and larger uterine fibroids among women exposed prenatally to DES than found in unexposed women. (VOICE #105) This relatively small human study confirmed NIEHS findings linking DES exposure to the development of uterine tumors in mice.

However, research by the National Cancer Institute (NCI) DES Follow-up Study did not find an increased incidence of uterine fibroids among DES Daughters in a study published in 2005. (VOICE #104) There are fewer participants in the DES Follow-up Study than in either the Nurses’ Health Study II or the Sister Study. However, the NCI study participants have medical record review confirmation of pre-

Uterine fibroids are benign tumors that may cause pain and bleeding, as well as infertility and pregnancy problems. Uterine fibroids are the leading reasons for a hysterectomy.

natal DES exposure, often including when the DES was administered in a pregnancy and total dosage. This study also uses a group of matched unexposed control participants.

Conflicting research reports, like these investigating a DES exposure link to an increased risk for uterine fibroids, reminds us that prenatal DES exposure remains an interesting, if frustrating, puzzle for researchers to continue untangling. While also frustrating for the DES-exposed community, just know that you are witnessing the evolution of science in action. Each study uses valid research techniques, but a variety of factors may result in different outcomes. Eventually the puzzle pieces will come together for an understanding of the harms caused by DES and all endocrine disruptors.