DES Action Voice #127
Winter 2011

No Link Found Between DES and Autoimmune Disorders

With The Exception of Rheumatoid Arthritis

"Autoimmune Disease Incidence Among Women Prenatally Exposed to Diethylstilbestrol," William C. Strohsnitter, et al., *The Journal of Rheumatology*, 37(10), October 2010.

Reviewed by Kari Christianson and Fran Howell

Despite the generally held belief that DES exposure causes an increased risk for autoimmune disorders, a new study failed to prove that.

DES research on mice is usually a good predictor of what will happen in humans. So, when DES-exposed animals showed an increase in autoimmune problems caused by altered immune system development and function, it was suspected DES Daughters and DES Sons would, too. But researchers have been exploring that possibility for years and keep coming up nearly empty-handed.

In this latest effort, William Strohsnitter, D.Sc., of Tufts Medical Center, and the team of researchers from the National Cancer Institute (NCI) DES Follow-up Study examined data gathered from study participants. What they found, he says, is that overall, the "data provide little support for an association between prenatal DES exposure and development of autoimmune disease."

The only exception is an increased incidence of rheumatoid arthritis (RA) in DES Daughters under 45 years of age. Strohsnitter is trying to understand this positive association between prenatal DES exposure and RA development in younger women.

Strohsnitter suggests that possibly some participants mistakenly reported that they were diagnosed with RA. He says, "Historically, verification of autoimmune disease has been difficult." While some records were obtained for verification of a RA diagnosis, the review also relied on participants' self-reports.

As DES Action members have reported, for many individuals, the process of diagnosing an autoimmune disease is long and complicated — and sometimes frustrating. Younger women may have reported an RA diagnosis only to learn a few years later their initial diagnosis was in error.

Interestingly, for women over 45, the DES- exposed had a lower RA rate compared with unexposed women. Strohsnitter was surprised by that and says, "Possibly, DES-exposed women develop the disease earlier in their lifetime than unexposed women."

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A DES complication may actually lower the risk for rheumatoid arthritis for some DES Daughters. According to Strohsnitter, the incidence of RA is greater after childbirth. But because infertility is linked to DES exposure, those DES Daughters who do not give birth may be at reduced risk for developing RA.

On the other hand, Strohsnitter wonders whether the increase in RA diagnosis immediately after childbirth, "might be more pronounced among DES-exposed women." He raises that possibility to potentially explain the higher rate of RA among DES Daughters younger than 45. There were, however, too few cases in this age group to explore this speculation further.

This study used DES Follow-up Study questionnaire responses from 1994, 1997, and 2001. But these surveys did not gather information on such things as occupational exposures, breast-feeding history, and nutrition. So those factors, which are known to affect RA, could not be evaluated. However, since this information is missing from both the DES- exposed and the unexposed study participants, Strohsnitter is not overly concerned, "There is no reason to suspect that these factors are differentially distributed between the two exposure groups."

Researchers with the DES Follow-up Study have been investigating many health outcomes for individuals exposed to DES, and a report on DES exposure and autoimmune diseases was released in 1988. At that time DES Daughters reported a number of autoimmune diseases, e.g., Graves' disease, Hashimoto's disease, pernicious anemia, lupus, and optic neuritis. In this new study none of those autoimmune diseases was found to be more prevalent in DES-exposed women.

Questions and anecdotal reports about prenatal DES exposure and an increased incidence of autoimmune diseases have been circulating for years. This research study may not put those questions to rest, but it does provide an interesting look into how DES could be linked to at least one of them, rheumatoid arthritis.

Because DES Daughters are now aging into the period when RA is more commonly diagnosed, Strohsnitter stresses the need for further examination of this issue. Questions about RA and other autoimmune disorders will be included on the next NCI DES Follow-up Study survey.

Results from this study will undoubtedly be disconcerting for many DES-exposed individuals who believe their autoimmune problems are a direct result of DES. There is much we don't know. Perhaps DES in combination with other endocrine disruptors in our environment does increase the risk. Or perhaps this study was not large enough to give a broader picture of diseases other than RA. Given what we know about how DES alters the immune system in mice, this vexing issue will come under continued research scrutiny. DES VOICE