



Diethylstilbestrol Exposure: How Well Informed Are You About This Health Risk?

Most nurses have heard of the synthetic hormone diethylstilbestrol (DES). Mention of the drug usually brings to mind its use decades ago by pregnant women and the more recent findings of its link to clear cell adenocarcinoma. However, many nurses are unaware of the full extent of potential health problems associated with DES exposure. How well informed are you?

DES was prescribed to approximately four million pregnant women from 1940–1971. Researchers believed the hormone would help to prevent miscarriage and produce larger, stronger babies. DES became popular during the post-World War II baby boom after an article published in 1949 by the *New England Journal of Medicine* described the drug's benefits in preventing miscarriage. Four years later, researchers found that women taking DES were just as likely to have miscarriages and premature births as women taking a placebo. Despite the publication of these findings in the *American Journal of Obstetrics and Gynecology*, DES continued to be prescribed to pregnant women until 1971, when researchers reported finding clear cell adenocarcinoma of the vagina and cervix in young women whose mothers had taken DES while pregnant (Centers for Disease Control and Prevention [CDC], 2003; Rubin, 2003).

Although decades have passed since this drug first was prescribed, DES continues to have lingering effects. Because DES was marketed under various trade names and some pregnant women believed the pills were prenatal vitamins, DES activists speculate that as many as half of those exposed to the drug, while pregnant or in utero, do not realize that they were exposed. DES activists further are concerned that "DES daughters" now are reaching the age when breast cancer and other hormone-related can-

cers become more common and wonder if in utero exposure to DES will increase the risk of these cancers (Rubin, 2003).

DES activists are not alone in this concern; in early 2003, the CDC launched an



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educational campaign about DES. This campaign is directed to lay people

as well as healthcare professionals and features a Web site (www.cdc.gov/DES). The CDC Web site contains information and links to resources and offers print and downloadable publications, including DES-related materials, research reports, interactive self-assessments, updates, and bibliographies. Other resources also are available to individuals concerned about DES exposure, including the DES Cancer Network (800-DESNET4, phone; www.descancer.org, Web site), DES Action (800-DES-9288, phone; www.desaction.org, Web site), and the DES Sons Network (<http://groups.yahoo.com/group/des-sons>).

Current Research Findings

Health problems associated with DES exposure include clear cell adenocarcinoma of the vagina and cervix in some of the daughters of women who took DES. Clear cell adenocarcinoma has been found in DES daughters aged 7–48. The maximum age for developing this cancer is unknown; therefore, healthcare providers, as well as DES daugh-

ters, must be aware that a long-term potential cancer risk is associated with DES exposure (Hatch et al., 2001).

DES daughters should have a gynecologic examination annually that includes a thor-

ough pelvic and visual examination, palpation of the vagina, a cervical Pap test, and a four-quadrant vaginal Pap test (i.e., Pap smears from all four sides of the vagina). Hammes and Laitman (2003) suggested that an initial gynecologic examination of

women exposed to DES in utero also should include colposcopy (i.e., use of a magnifying instrument to better visualize the cervix and vagina) and iodine staining of the cells obtained during the Pap tests, which assists in detecting abnormal tissue.

Women who took DES during pregnancy have a slightly elevated risk for breast cancer (Palmer et al., 2002; Titus-Ernstoff et al., 2001). These women need to follow breast cancer screening guidelines, perform monthly breast self-examinations, have annual clinical breast examinations, and have annual mammograms.

The link between DES exposure and cancer risk has been well publicized. In contrast, many people are unaware of the potential effects of DES exposure on fertility and pregnancy. Women exposed to DES in utero are at a higher risk for infertility, tubal pregnancies, miscarriage, and premature births than women whose mothers did not take DES during pregnancy (CDC, 2003; DES Cancer Network, 2003; Palmer et al., 2001).

Sons of women who took DES during pregnancy have been found to have genital abnormalities and may have problems with