Poster #26

Reproductive Failure in Female Rats Given Bisphenol-A Neonatally

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Bisphenol-A (BPA) used in the manufacture of polystyrene and epoxy resins is known to be a potent endocrine disrupter in rodents. We have already reported in e.hormone 2003 that 1 mg BPA-treated rats showed regular estrous cycles at 60 days, and contained ovaries with follicles and corpora lutea. However, they had a few fetal swellings and abnormal swellings in the uteri on Days 10 and 18 of pregnancy (PD10 and 18). In the present report, uteri and oviducts were investigated in female rats of the T strain given 7 daily injections of 1 mg BPA from the day of birth.

The BPA-treated rats showing regular estrous cycles were mated with vasectomized males on the first day of proestrus after Day 60. They invariably exhibited diestrous vaginal smears until sacrifice on PD 10. Uteri in theBPA-treated rats were significantly heavier than those in the controls, and unlike the controls, bore some deciduomal swellings. The number of ova ovulated in the oviduct at the first estrus after Day 60 was fewer in the BPA-treated rats than in the controls. The oviducts in several BPA-treated rats showed a lack of the fimbria and/or tumor-like structure and nodular masses with lymphocytes in the lamina propria.

These findings indicate that the reduction of fetuses in the BPA-treated pregnant rats may be accounted, at least in part, for by the failure in the transport of the ovum due to the abnormal structure of the oviduct.

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