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Di (2-ethylhexyl) Phthalate (DEHP) Alters Proliferation and Uterine Gland Numbers in the Uteri of Adult Exposed Mice.

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Highlights

- Adult female mice were dosed daily for 30 days with DEHP (20 ug/kg/day to 200 mg/kg/day) to determine effects on the uterus.
- DEHP decreased uterine epithelial cell proliferation at low doses.
- DEHP increased numbers of uterine glands at highest dose.
- DEHP increased numbers of weakened, dilated blood vessels in the endometrium.
- DEHP increased proliferation of uterine stromal cells.

Abstract

Di-(2-ethylhexyl) phthalate (DEHP) is an endocrine-disrupting chemical that has been shown to impair normal reproductive function in males and females. This study investigated whether adult exposure to environmental and occupational doses of DEHP alters homeostasis of uterine proliferation, morphology, and number of uterine glands. Adult female CD1 mice were orally dosed with DEHP (0, 20µg/kg/day, 200 µg/kg/day, 20mg/kg/day or 200mg/kg/day) for 30 days. Results indicated that DEHP at 200 µg/kg/day caused a reduction in epithelial cell proliferation in the uterus ($p<0.05$). We also observed an increase ($p<0.05$) in the number of uterine glands in mice dosed with 200mg/kg/day DEHP. Results showed that DEHP caused an increase ($p<0.05$) in dilated blood vessels in the endometrium at 200 µg/kg/day, 20 mg/kg/day and 200 mg/kg/day. DEHP also increased proliferation of endometrial stromal cells at 200µg/kg/day DEHP ($p<0.0010$), 20 mg/kg/day DEHP ($p<0.0001$) and 200 mg/kg/day DEHP ($p<0.0186$). Results

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