Age at menarche and tanner stage in girls exposed in utero and postnatally to polybrominated biphenyl.

Blanck HM, Marcus M, Tolbert PE, Rubin C, Henderson AK, Hertzberg VS, Zhang RH, Cameron L.


Source
Biological and Biomedical Sciences Division, Rollins School of Public Health, Emory University, Atlanta, GA 30322, USA.

Abstract
Accidental contamination of the Michigan food chain with polybrominated biphenyls (PBBs) led to the exposure of more than 4,000 individuals in 1973. Because PBB exposure is suspected to disrupt endocrine function, we assessed pubertal development in females 5-24 years of age (N = 327) who were exposed to PBB in utero and, in many cases, through breastfeeding. We estimated in utero PBB exposure using maternal serum PBB measurements taken after exposure (1976-1979) and extrapolated to time of pregnancy using a model of PBB decay. We found that breastfed girls exposed to high levels of PBB in utero (≥ 7 parts per billion) had an earlier age at menarche (mean age = 11.6 years) than breastfed girls exposed to lower levels of PBB in utero (mean age = 12.2-12.6 years) or girls who were not breastfed (mean age = 12.7 years). This association persisted after adjustment for potential confounders (menarche ratio = 3.4, 95% confidence interval = 1.3-9.0). Perinatal PBB exposure was associated with earlier pubic hairstage in breastfed girls, but little association was found with breast development. The associations observed here lend support to the hypothesis that pubertal events may be affected by pre- and postnatal exposure to organohalogens.

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