Increased risk of birth defects after PCE exposure

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Exposure to tetrachloroethylene (also known as perchlorethylene, PCE) may cause congenital birth defects. A study of expectant women exposed to PCE in drinking water, published in BioMed Central's open access journal *Environmental Health*, found an increased risk of oral clefts and neural tube defects in their children.

Ann Aschengrau, from Boston University School of Public Health, USA, worked with a team of researchers to study the prevalence of birth defects in the children of women from 8 towns in Cape Cod who had been exposed to PCE during the period 1969-1983. She said, "The results suggest that the risk of certain congenital anomalies is increased among the offspring of women who were exposed to PCE-contaminated drinking water around the time of conception".

From the late 1960s until 1980, hundreds of miles of pipe that had been lined with a vinyl coating containing PCE were laid in the area. It wasn't until 1980 that officials realized the danger, creating what the researchers describe as "A vast natural experiment reminiscent of John Snow's cholera investigation in 1854 London." Boston University investigators found that there were 61 children with congenital anomalies among the 1,658 children with some prenatal PCE exposure and 95 children with congenital anomalies among 2,999 children with no prenatal PCE exposure. Prenatal exposure was associated with increases in the risk of oral clefts and neural tube defects (particularly anencephaly).

Speaking about these findings, Aschengrau said, "Because PCE remains a commonly used solvent and frequent contaminant of ground and drinking water supplies, it is important to understand its impact on the developing fetus."

More information: Prenatal exposure to tetrachloroethylene-contaminated drinking water and the risk of congenital anomalies: a retrospective cohort study; Ann Aschengrau, Janice M Weinberg, Patricia A Janulewicz, Lisa G Gallagher, Michael R Winter, Veronica M Vieira, Thomas F Webster and David M Ozonoff; *Environmental Health* (in press); www.ehjournal.net/

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