

RISK OF PREGNANCY LOSS ACCORDING TO URINARY PHTHALATE LEVELS AROUND THE TIME OF CONCEPTION

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Background and aims: Animal studies indicate that some phthalate metabolites may harm female reproductive function. The main objectives was to investigate associations between exposure to phthalate metabolites and the risk of pregnancy loss.

Methods: In a previously established cohort of first pregnancy planners we analyzed four primary and two oxidized secondary phthalate metabolites in urine samples collected at day 10 after the first day of the last menstrual period before conception occurred (n=128) and during the previous cycle (if any, n=111). Subclinical embryonal loss was identified by repeated urinary hCG measurements and information on clinical spontaneous abortions was obtained by telephone interview by the mother.

Results: An increased risk of pregnancy loss (n=48, Hazard Ratio (HR) 2.11; 95% confidence interval (CI) 1.07-4.16) was found among women with urinary concentration of mono-ethylhexyl phthalate (MEPH) in the upper tertile in the conception sample compared with women in the lowest tertile. The risk of subclinical embryonal loss (n=32) was 16.54 (CI 2.22-123.27) while the risk of clinical spontaneous abortion (n=16) decreased (HR 0.17 CI (0.04-0.76)). None of the other measured phthalate metabolites were statistically significant associated to increased risk of pregnancy loss.

Conclusions: The phthalate metabolite MEHP may be associated with increased risk of early embryonal loss. Since this is the first human study to show this association, and the sample size is small, the study needs to be corroborated in independent studies.