

ABSTRACT

Mayer-Rokitansky-Kuster-Hauser (MRKH) syndrome is characterized by uterine and vaginal canal aplasia in normal karyotype human females and is a syndrome with poorly defined etiology. Reproductive toxicity of phthalate esters (PEs) occurs in rat offspring exposed *in utero*, a phenomenon that is better studied in male offspring than females. The current study reports female reproductive tract malformations in the Sprague Dawley rat similar to those characteristic of MRKH syndrome, following *in utero* exposure to a mixture of 5 PEs. We determined that females are ~2-fold less sensitive to the effects of the 5-PE mixture than males for reproductive tract malformations. We were not fully successful in defining the critical exposure period for females; however, incidence of malformations was 88% following dosing from GD 8-19 versus 22% and 0% for GD8-13 and GD14-19, respectively. Overall, this study provides valuable information regarding female vulnerability to *in utero* phthalate exposure and further characterizes a potential model for the human MRKH syndrome.
