

**Studies on the effect of edifenphos (an organophosphorus
fungicide) on pregnant mice (*Mus musculus*)
and their fetuses.**

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ABSTRACT

The purpose of this study was to assess the embryotoxic, fetotoxic and teratogenic potentiality of edifenphos in mice. Pregnant female mice received daily oral doses of 27.5, 55 or 110 mg/kg of edifenphos during the periods of pre and early-implantation (early pregnancy) or during organogenesis. Edifenphos treatment during early pregnancy induced developmental toxic and teratogenic effects. These effects were summarized in increased incidence of pre and post-implantation losses as well as increased percent of females showing these losses. Histopathological examination of the egg-cylinder following edifenphos treatment during early pregnancy displayed different forms. These forms were, retarded, deformed and degenerated embryos. Also, edifenphos treatment during the period of organogenesis induced maternal toxicity as indicated by a significant reduction in the maternal body weight and increased maternal organs weight. Developmental toxicity recorded during this treatment was manifested by increased incidences of partial and complete resorption of implants as well as increased percent of females showing such effect. This effect leads to a marked reduction in percent of life fetuses per dam.

Examination of life fetuses from edifenphos treated dams on 18th day of gestation showed fetal growth retardation and a significant increase in the percent of the malformed fetuses per dam and percentage of dams with malformed fetuses. These malformations are clearly recorded in gross morphology and skeleton of the fetuses. Skeletal malformations were observed in sternebae, ribs and vertebral centra. Also, assessment of skeletal ossification of life fetuses revealed marked retardation in the major parts of the skeleton. The previously mentioned effects of edifenphos may be attributed to hormonal imbalance and genotoxic effects exerted by the used fungicide.