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Perinatal effects of nicotine.

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Abstract

Nicotine alkaloid as a base was administered to 3 groups of pregnant Swiss albino mice during each trimester of their pregnancy. Three doses of the drug (900, 1,800 and 2,700 micrograms/kg/day) which respectively correspond to 3 levels of cigarette smoking (10, 20 and 30 cigarettes per day) were used. In order to find out which stage of pregnancy is most vulnerable to the effects of nicotine, each dose of the drug was administered subcutaneously to a group of animals during each trimester of their pregnancy. The perinatal effects, i.e., gestation period, percent of delivering mothers, the male to female ratio of the offspring, and the perinatal mortality, i.e. still-birth and neonatal death, were observed. In general, nicotine has increased the perinatal mortality. When large doses of the drug were given especially in the second and third trimesters of gestation, there was a significant shortening of the gestation period (p less than 0.05; p less than 0.01). Hence, during pregnancy, mothers who smoke should be warned against the harmful effects of smoking especially in the late period of their pregnancy.