Prenatal Exposure to Amphetamines

Despite the fact that many women who use cocaine or amphetamines, including methamphetamines, deliver normal infants who develop within normal parameters, there are many maternal and fetal risks associated with the use of cocaine and amphetamines during pregnancy.

The systemic effects of amphetamines are hypertension, dilated pupils, tremors, and hyperactivity. Because cocaine also acts as a central nervous system stimulant, both cocaine and amphetamines have the same action in that they both affect norepinephrine metabolism. An additional effect of amphetamines if the production of anorexic effects and a suppressed appetite, although this effect exhibits tolerance with chronic administration. Toxic effects of amphetamines involve many of the characteristics seen with cocaine overdoses: hypertension, retinal damage, cardiac arrhythmias, hyperthermia, seizures, shock, stroke, and death. Women who use amphetamines during pregnancy report hypertension, tachycardia, proteinuria, prematurity, premature labor, and placental hemorrhage as the most common complications.

In studies of the prenatal effects of amphetamines used during pregnancy, exposure data for both amphetamine (and methamphetamine) and cocaine are often combined, because both compounds are CNS stimulants. When these prenatal effects are reported clinically, there are no statistical differences between amphetamine and cocaine groups. Malformations and adverse outcomes reported with the use of amphetamine or methamphetamine during pregnancy include cleft lip, cardiac defects, low birth weight, growth reduction, reduced head circumference, biliary atresia, prematurity, stillbirth, hyperbilirubinemia requiring exchange transfusion, cerebral hemorrhage, low body fat,
mongolian spots, systolic murmur, and undescended testes. As Plessinger (2005) emphasizes, the reported malformations are those associated with amphetamine use during pregnancy. Plessinger states, “Whether these defects are related to the effects of amphetamine or are caused by the environment of the drug user or by other extraneous factors remains to be defined” (pg. 25).

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Reference