Addiction in pregnancy: Physical and developmental outcomes of children

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Substance abuse among pregnant women is an area of special concern. Questions of paramount interest are the effects of drug use/misuse on the fetus, newborn and young child. To provide answers to these questions, investigations have examined teratologic effects, obstetrical complications, prenatal and postnatal delays in growth and development, and impairments in neurobehavioral functions. This presentation will provide an overview of existing research on the effects of illicit prenatal drug exposure on the growth and development of the newborn and young child. Perinatal outcomes, i.e. birth weight, head circumference, prematurity, and neurobehavioral characteristics associated with prenatal opioid exposure, including heroin, methadone, and buprenorphine; prenatal cocaine exposure; and prenatal methamphetamine exposure will be discussed. Neonatal abstinence related to opioid exposure will also be discussed. Studies that have examined the cognitive and developmental outcome of opioid exposed and cocaine exposed children through the first 5 years of life will be reviewed. The role of illicit drug exposure as a marker of environmental risk and the importance of utilizing an interactive environment of care model in delineating factors that may either exacerbate or attenuate risk will be discussed.
Illicit drug abuse places pregnant women at increased risk for medical and obstetrical complications. As a result, medical problems are seen in their neonates such as premature birth and intrauterine growth restriction and potentially sequelae such as developmental delays. In utero opioid exposure may be associated with abstinence in 60-90% of the newborns. Up to 70% of the women experience some symptoms of depression necessitating pharmacologic treatment with tricyclic antidepressants or the selective serotonin reuptake inhibitors, both of which significantly increase the risk of neonatal respiratory distress, hypoglycemia, neonatal convulsions and the occurrence of neonatal abstinence. Neonatal abstinence is described as a generalized disorder characterized by CNS hyperirritability, gastrointestinal dysfunction, respiratory distress, and autonomic dysfunction manifesting as vague symptoms such as yawning, hiccups, sneezing, mottled skin color, and fever. The onset of withdrawal symptoms varies from minutes or hours after birth to 2 weeks of age, but the majority of symptoms appear within 72 hours. Acute symptoms may persist for several weeks, whereas subacute symptoms (e.g., irritability, sleep problems, hyperactivity, feeding problems, and hypertonia) may persist for 4 to 6 months. About 50% to 60% of exposed infants demonstrate symptoms significant enough to require medication. To determine whether an infant will need pharmacologic treatment for withdrawal, appropriate assessment of symptoms is essential utilizing a scoring tool to monitor the onset, progression, and resolution of symptoms and to assess the infant’s response to pharmacotherapy. Recommended pharmacotherapy for neonatal abstinence includes a 25-fold dilution of tincture of opium or an oral morphine solution. The implications of maternal drug addiction on the newborn are preventable if women do not use dependence-producing drugs, licit or illicit, during pregnancy. Through intense educational efforts and appropriate treatment for addicted pregnant women, the desirability and availability of drugs may be thwarted. Unfortunately, the psychosocial and socioeconomic milieu of modern society continues to propagate dysfunctional families, victimization of women, and an intergenerational cycle of drug abuse.
Efforts in normalizing the lives of addicted pregnant women and their children

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Children born of substance using mothers are high-risk children. They are from the very beginning of fetal life exposed to a multitude of detrimental factors of both a biological and a psychosocial nature with severe consequences for their development. They are at risk of congenital malformations, low birth weight, premature born, intrauterine asphyxia and other severe complications during pregnancy and delivery. In the neonatal period they are at risk of neonatal withdrawal symptoms, infectious diseases and other neonatal morbidity and mortality. Many of these infants are furthermore growing up under chaotic and instable environments where they are suffering from neglect and abuse. All the above mentioned problems can be prevented by early and multidisciplinary intervention during pregnancy, delivery and the first years of life. Family Center in the University Hospitals of Copenhagen is a comprehensive prenatal and postnatal program for pregnant substance using women and their children up to the age of 6 years. The program has multidisciplinary staff of doctors, midwives, psychologists and social workers and offer comprehensive care for the pregnant woman, her partner and the newborn infant and follow up the children and the families to school age. From the early pregnancy Family Center collaborates very closely with the Social Services, General Practitioners and others in the Primary Health Care System. Family Center has dramatically reduced health problems, developmental disturbances, neglect and abuse in children born of substance using mothers in Copenhagen during the last ten years. The Danish Government has in 2008 decided to provide similar programs all over the country during the following four years. Methods Results and experience from Family Center in Copenhagen will be presented.
The implications of maternal drug addiction on the newborn

Loretta Finnegan

USA

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