

PS-020. Exposure of pregnant women to pesticides

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Many of the chemicals in the environment can alter hormonal homeostasis of living beings. Pesticides use in health and agriculture has very varied effects: benefits derived from the systematic destruction of parasites that affect the health of plants and humans must be set against the effects of them on animal species and humans. Despite legislation to control the use of certain products, they repeatedly appear in the adipose tissue, milk, and serum of animal and human populations. Because organochlorine pesticides accumulate in the adipose tissue, blood/serum, and milk, any of these media are suitable for estimating human impregnation by these xenobiotics, and studies have demonstrated the presence of polychlorinated bi-phenyls (PCBs), dioxins, DDT, and HCH in all of them. Synthetic chemicals are transferred from mother to child across placenta and breast milk and may disrupt development even at low levels. For the fetus and neonate, exposures to environmental toxicants may result in a wide range of adverse health consequences and potentially be transmitted to the next generation. Although cord blood can provide information about fetal exposure at birth, it may not accurately reflect fetal exposures during early gestation, which may also have profound developmental effects. Recent studies have collected data on environmental exposures during pregnancy but few have adequately characterized cumulative exposures and their consequent effects on developing fetus. Future research should focus on characterizing cumulative maternal and fetal exposure from preconception to postpartum and investigating possible additive or multiplicative clinical effects of multiple cumulative exposures using appropriate statistical tools. Moreover, educational materials on chemical exposures should focus on modifiable risk factors, such as diet. Because synthetic chemicals are now global contaminants, it is increasingly important to create opportunities for environmental health prevention through understanding and ultimately reducing cumulative exposures during pregnancy and early development.

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