

P12. Endocrine Disruptors and Reproductive System

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Endocrine disruptors are mixtures of exogenous substances or substances that alter the development and function of the endocrine system. These substances effect on hormone production, release, attachment, transport, activity, destruction and body excretion.

Compounds with endocrine disrupting effect can be examined in three groups.

1. Synthetic endocrine disruptors are found in some products used in the industry, agriculture and at home. Diethylstilbestrol(DES) is the most known.
2. Natural endocrine disruptors do not usually cause significant side effects because they are excreted in the body without accumulating in the tissues.
3. Environmental endocrine disruptors are chemicals and various environmental pollutants developed for use in the industrial field. Enviromental pollutants developed of the mineralization of biocides, intecticides, herbicides, fungicides, industrial chemicals (bisphenol A, polyvinyl carbon) and other chemicals get involved in this group.

The studies show that endocrine disruptors have different effect mechanisms and pathogenesis on many periods of women's life, from puberty to menopause. (Diamanti-Kandarakis et al.,2010)

Endocrine disruptors in women can lead to early/late puberty, polycystic ovary syndrome, decreased fertility, infertility, endometriosis, early ovary insufficiency, uterine tumors, aneuploidia, pregnancy complications, breast tumors and endometrial tumors. (Diamanti-Kandarakis et al.,2009)

The studies show that endocrine disruptors can be lead to infertility, decline in sperm quality, urogenital tumors (hypospadias, cryptorchidism) and testicular germ cell tumors.(Sharpe and Skakkabaek et al.,2003)

Many studies have shown that endocrine disruptors have health-damaging effects. Many endocrine disruptors have the ability to accumulate in our body as they can be stored in the fat tissue. Today, it is impossible to be completely protect against endocrine disrupting agents. For this reason, lifestyle changes become important in order to minimize the effects of endocrine disruptors on our health.

Adequate and balanced nutritional habits should be developed to protect against the effects of endocrine disruptors.

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