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New Aspects of Cadmium as Endocrine Disruptor

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Cadmium (Cd) is an industrial and environmental pollutant that exerts adverse effects on a number of organs in humans and animals. Reproductive organs, such as the testis and placenta, are sensitive to the toxic effects of Cd. In animal experiments, high-dose exposure to Cd induced severe testicular interstitial hemorrhage with edema, and increased incidence of fetal death and placental necrosis. Low-dose exposure to Cd affects steroid synthesis in male and female reproductive organs. In 1998, the Ministry of Environment in Japan listed Cd in the strategy plan SPEED98 as one of the chemicals suspected of having possible endocrine disrupting activity. Recently, it has been shown that Cd has potent estrogen- and androgen-like activities *in vivo* and *in vitro*, by directly binding to estrogen and androgen receptors. However, the precise mechanisms underlying the effects of Cd as an endocrine disruptor remain to be elucidated. In this review, we will discuss evidence thus far presented concerning the effects of Cd on the endocrine system.

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