

Impact of Cadmium on Male Fertility

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Cadmium (Cd) is a heavy metal and a major environmental pollutant. The general population is exposed to Cd mainly via drinking water and food products. It accumulates and is proved to cause severe damage to a variety of organs such as lung, brain, testis, kidney, liver, blood system and bone. Cd exerts direct cytotoxicity within the testis, mainly targeting two specific cell populations, the Sertoli cells and the Leydig cells, with consequent impairment of spermatogenesis and endocrine function. Cd induced oxidative stress in somatic and germ cells, mainly mediated by mimicry and interference with essential ions, beyond apoptosis occurring in germ cells. After Cd treatment disturbance of the hypothalamus-pituitary-gonadal axis is also reported.

Key words: cadmium, testis, fertility