

Cadmium as a pro-inflammatory factor. Chosen cadmium neurotoxicity issues

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Cadmium belongs to the environmental toxins that constitute nowadays a serious problem for public health. The aim of this paper is to summarize the existing state of knowledge on the effects of cadmium on selected inflammatory mediators and markers, such as NF- κ B, AP-1, IL-6, TNF- α , IL-1 β , IL-8, MPO, iNOS, MMPs, COX-2, PGE₂, ICAM-1, VCAM-1, PECAM-1 and CRP in humans and rodents, both *in vitro* and *in vivo*. Moreover, the results of the author's original research on the effects of cadmium on COX-1 and COX-2 gene, protein expression and enzymatic activity in THP-1 macrophages are presented. In addition, the literature review as regards the neurotoxic effects of cadmium in humans and rodents is discussed. The effects on oxidative stress, interference with calcium, interaction with other metals, the impact on neurotransmitters, apoptosis induction, estrogen-like effects and epigenetic modification may be the mechanisms underlying cadmium neurotoxicity.