

Toxicity of TCDD in Flounder (*Platichthys flesus*): preliminary histopathological and immunological results.

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Under controlled laboratory conditions three groups of six flounders were treated oral, once, with a single dose of 0, 20 or 100 µg/kg body weight 2,3,7,8-tetrachlorodibenzo-p-dioxin, dissolved in corn oil. Clinical behavior was monitored daily, and conditional parameters such as weight and hepatosomatic index were measured at the end of the experiment. The animals were killed eight weeks after exposure and samples were taken in order to perform histopathology and immune function tests (nonspecific cytotoxic cell (NCC) activity of leukocytes from the mesonephros, and mitogen (LPS) induction of leukocytes from peripheral blood). No behavioral changes were noted during the experiment. No statistically significant differences in bodyweight and hepatosomatic index was detected between control and exposed animals. Histopathology of liver, spleen, mesonephros, gills, gastrointestinal tract and gonads of formalin fixed and routinely processed tissues using H&E, PAS and Oil-red-O stains showed no clear pathological lesions. Dose related increased levels of Cytochrome P450 1A levels were detected immunohistochemically in the liver and gills of both exposed groups. A dose related increase in proliferating cell nuclear antigen (PCNA) was detected in hepatocytes. Lymphocyte stimulation with LPS showed a decrease in exposed animals, indicating decreased B-cell function. NCC activity of mesonephros cells was not altered. The absence of marked pathological effects is in contrast with the effects reported in literature of TCDD in the rainbow trout and the mirror carp in a much lower dose (1,2,3). Thus, the sensitivity of flounder for TCDD toxicity, as far as parameters investigated to date, seems to be relatively low.

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