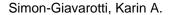
Enhancement of lindane-induced liver oxidative stress and hepatotoxicity by thyroid hormone is reduced by gadolinium chloride



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The role of Kupffer cells in the hepatocellular injury and oxidative stress induced by lindane (20 mg/kg; 24h) in hyperthyroid rats (daily doses of 0.1 mg L-3,3?,5-triio-dothyronine (T3)/kg for three consecutive days) was assessed by the simultaneous administration of gadolinium chloride (GdCl3; 2 doses of 10 mg/kg on alternate days). Hyperthyroid animals treated with lindane exhibit enhanced liver microsomal superoxide radical (O2 ?-) production and NADPH cytochrome c reductase activity, with lower levels of cytochrome P450, superoxide dismutase (SOD) and catalase activity, and glutathione (GSH) content over control values. These changes are paralleled by a substantial increase in the lipid peroxidation potential of the liver and in the O2 ?- generation/SOD activity ratio, thus evidencing a higher oxidative stress status that correlates with the development of liver injury characterized by neutrophil infiltration and necrosis. Kupffer cell inactivation by GdCl3 suppresses liver injury