# Effects of the Kupffer cell inactivator gadolinium chloride on rat liver oxygen uptake and content of mitochondrial cytochromes

Ferreira, Jorge

Tapia, Gladys

Videla, Luis A.

The effect of gadolinium chloride (GdCl3) on the content of rat liver mitochondrial cytochromes was investigated in relation to the basal rate of O2 uptake and Kupffer cell functioning, assessed in liver perfusion studies. (1) A single dose of GdCl3 (10 mg/kg) produced a significant diminution in Kupffer cell functioning, evidenced by the decreases in colloidal carbon uptake and in carbon-induced O2 uptake observed at 624 h after treatment, without changes in the sinusoidal lactate dehydrogenase efflux as index of tissue viability; at 48 h after GdCl3 administration, carbon phagocytosis was recovered to control values, whereas carbon-induced O2 uptake remained lower than control values. (2) GdCl3 also caused a 34% decrease in the basal rate of O2 consumption of the liver at 24 h after treatment, which returned towards control values at 48 h. (3) The content of mitochondrial cytochromes c1 and c at 24 h after GdCl3 treatment was significantly reduced by 40 and 32%, respectively, which r