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**Cisplatin-induced mitochondrial dysfunction is associated with impaired cognitive function in rats**

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**Abstract****Purpose:**

Chemotherapy-related cognitive impairment (CRCI) is commonly reported following the administration of chemotherapeutic agents and comprises a wide variety of neurological problems. No effective treatments for CRCI are currently available. Here we examined the mechanisms involving cisplatin-induced hippocampal damage following cisplatin administration in a rat model and in cultured rat hippocampal neurons and neural stem/progenitor cells (NSC). We also assessed the protective effects of the antioxidant, N-acetylcysteine in mitigating these damages.

**Experimental Design:**

Adult male rats received 6 mg/kg cisplatin in the acute studies. In chronic studies, rats received 5 mg/kg cisplatin or saline injections once per week for 4 weeks. N-acetylcysteine (250 mg/kg/day) or saline was administered for five consecutive days during cisplatin treatment. Cognitive testing was performed 5 weeks

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