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Nigella sativa relieves the deleterious effects of ischemia reperfusion injury on liver.

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Abstract

AIM: To determine whether *Nigella sativa* prevents hepatic ischemia-reperfusion injury to the liver.

METHODS: Thirty rats were divided into three groups as sham (Group 1), control (Group 2), and *Nigella sativa* (NS) treatment group (Group 3). All rats underwent hepatic ischemia for 45 min followed by 60 min period of reperfusion. Rats were intraperitoneally infused with only 0.9% saline solution in group 2. Rats in group 3 received NS (0.2 mL/kg) intraperitoneally, before ischemia and before reperfusion. Blood samples and liver tissues were harvested from the rats, and then the rats were sacrificed. Serum aspartate aminotransferase (AST), alanine aminotransferase (ALT), and lactate dehydrogenase (LDH) levels were determined. Total antioxidant capacity (TAC), catalase (CAT), total oxidative status (TOS), oxidative stress index (OSI) and myeloperoxidase (MPO) in hepatic tissue were measured. Also liver tissue histopathology was evaluated by light microscopy.

RESULTS: The levels of liver enzymes in group 3 were significantly lower than those in the group 2. TAC in liver tissue was significantly higher in group 3 than in group 2. TOS, OSI and MPO in hepatic tissue were significantly lower in group 3 than the group 2. Histological tissue damage was milder in the NS treatment group than that in the control group.

CONCLUSION: Our results suggest that *Nigella sativa* treatment protects the rat liver against to hepatic ischemia-reperfusion injury.

Comment in

Emerging clinical and therapeutic applications of *Nigella sativa* in gastroenterology. [World J Gastroenterol. 2009]

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