

## عنوان مقاله:

Protective effect of lutein on spinal cord ischemia-reperfusion injury in rats

## محل انتشار:

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## خلاصه مقاله:

Objective(s): Paraplegia is deterioration in motor or sensory function of the lower limbs that can occur after modification of a thoracoabdominal aortic aneurysm. The purpose of this survey was to determine the protective action of lutein on spinal cord ischemia-reperfusion (I-R) damage. Materials and Methods: Thirty-five male rats were distributed into five groups: intact, sham, dimethyl sulfoxide (I-R+DMSO), low dose lutein (I-R+0.2 mg/kg lutein), and high dose lutein (I-R + 0.4 mg/kg lutein). Thirty minutes before surgery, a single dose lutein or DMSO was administered to rats of experimental groups. Next, the abdominal aorta was clamped exactly under the left renal artery and proximal to the abdominal aortic bifurcation for 60 min. All animals were evaluated by neurological function and histological and biochemical examinations at 72 hr after I-R. Results: The mean motor deficit index (MDI) scores in lutein groups were lower compared with the DMSO group ( $P < 0.001$ ). Plasma level of malondialdehyde in lutein groups decreased compared with the DMSO group ( $P < 0.05$ ). Plasma level of total antioxidative capacity was increased in the high lutein group compared with low dose lutein and sham groups ( $P < 0.05$ ). Mean number of normal motor neurons in lutein groups was greater compared with the DMSO group ( $P < 0.001$ ). There was a significant negative correlation between MDI scores and the number of normal neurons ( $r = -0.764$ ,  $P < 0.001$ ). Conclusion: Findings of the present study demonstrate that lutein may support spinal cord neurons from I-R damage

## کلمات کلیدی:

Ischemia, Lutein, Rat, Reperfusion, Spinal Cord

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