

## عنوان مقاله:

Time course of neuroprotection induced by in vivo normobaric hyperoxia preconditioning and angiogenesis factors

## محل انتشار:

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## خلاصه مقاله:

Objective(s): Every year, a large number of people lose their lives due to stroke. Stroke is the second leading cause of death worldwide. Surprisingly, recent studies have shown that preconditioning with hyperoxia (HO) increases tissue tolerance to ischemia, ultimately reducing damages caused by stroke. Addressed in this study are beneficial contributions from HO preconditioning into reduced harm to be incurred by the attack, as well as its effect on the expression levels of vascular endothelial growth factor (VEGF) and endostatin. Materials and Methods: A set of experiments was conducted where a number of rats were divided into three groups. The animals in the first group received 90% oxygen for 4 hr a day, for 6 days. The second group was housed in room air and the third group was a sham (surgical stress). After 60 min of ischemia, 24 hr blood flow, neurological deficit score (NDS) and infarct volume (IV) in the group MCAO (Middle Cerebral Artery Occlusion) were investigated. Immediately following a 48 hr HO pre-treatment, sampling was performed to measure the expression levels of VEGF and endostatin. Results: Preconditioning with alternating HO led to reduced infarct volume and NDS. Moreover, pre-treatment with HO resulted in increased VEGF expression while decreasing endostatin. Conclusion: Although further studies are deemed necessary to clarify the mechanisms of ischemic tolerance, apparently, somewhat intermittent hyperoxia can be associated with positive impacts by increasing VEGF and decreasing expression of endostatin.

## کلمات کلیدی:

Endostatin, Ischemic tolerance, Normobaric hyperoxia, Stroke, Vascular Endothelial Growth Factor

## لینک ثابت مقاله در پایگاه سیویلیکا:

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