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Hydrogen as a novel and effective treatment of acute carbon monoxide poisoning

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Abstract

Hydrogen is a major component of interstellar space and the fuel that sustains the stars. However, it is seldom regarded as a therapeutic gas. A recent study provided evidence that hydrogen inhalation exerted antioxidant and anti-apoptotic effects and protected the brain against ischemia-reperfusion injury by selectively reducing hydroxyl radical and peroxynitrite. It has been known that the mechanisms underlying the brain injury after acute carbon monoxide poisoning are interwoven with multiple factors including oxidative stress, free radicals, and neuronal nitric oxide synthase as well as abnormal inflammatory responses. Studies have shown that free radical scavengers can improve the neural damage. Based on the findings abovementioned, we hypothesize that hydrogen therapy may be an effective, simple, economic and novel strategy in the treatment of acute carbon monoxide poisoning.

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