

## عنوان مقاله:

Effect of Morphine Withdrawal Syndrome on Cerebral Ischemia Outcome in Rats

## محل انتشار:

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## خلاصه مقاله:

Objective(s) Opioid abuse is still remained a major mental health problem, a criminal legal issue and may cause ischemic brain changes including stroke and brain edema. In the present study, we investigated whether spontaneously withdrawal syndrome might affect stroke outcomes. Materials and Methods Addiction was induced by progressive incremental doses of morphine over 7 days. Behavioral signs of withdrawal were observed 24, 48 and 72 hr after morphine deprivation and total withdrawal score was determined. Cerebral ischemia was induced 18-22 hr after the last morphine injection by placing a natural clot into the middle cerebral artery (MCA). Neurological deficits were evaluated at 2, 24 and 48 hr after ischemia induction, and infarct size and brain edema were determined at 48 hr after stroke. Results Morphine withdrawal animals showed a significant increase in total withdrawal score and decrease of weight gain during the 72 hr after the last morphine injection. Compared to the addicted and control animals, infarct volume and brain edema were significantly increased in the morphine deprived animals ( $P < 0.05$ ) at 48 hr after cerebral ischemia. Also, neurological deficits were higher in the morphine-withdrawn rats at 48 hr after stroke ( $P < 0.05$ ). Conclusion Our data indicates that spontaneous withdrawal syndrome may worsen stroke outcomes. Further investigations are necessary to elucidate mechanisms of opiate withdrawal syndrome on stroke.

## کلمات کلیدی:

Addiction, Cerebral ischemia, Embolic stroke, Morphine withdrawal syndrome, Opiates

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