

## عنوان مقاله:

Prior exercise training attenuated Doxorubicin-induced hepatic oxidative stress in Wistar rats: Age-related differences

## محل انتشار:

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## خلاصه مقاله:

**Introduction:** Previous studies have confirmed the sidelong effects of Doxorubicin (DOX) on healthy tissues, but pretreatment effect of regular Aerobic exercise in restrain of hepatotoxicity induced by doxorubicin is not clear. The aim of this study was to investigate the pretreatment effect of regular aerobic exercise on hepatic oxidative stress induced with doxorubicin of Wistar rats in different age groups. **Methods:** In the experimental study, ۷۲ male wistar rats divided into three groups of age (three and ۳۰ months) were again randomly separated into subgroups: control+DOX (۲۰ mg/kg, n=۸), and Training+DOX (T+DOX۲۰mg/kg, n=۸) Training+ Saline (T+S) groups. The training protocol included treadmill running progressively between ۲۵ to ۳۹ min/day and ۱۵ to ۱۷m/min, ۵ days/week for ۳ weeks. DOX and saline injection was performed ۲۴ h after the last exercise session, and tissue collection was done ۲۴ h after the injections. **Results:** The results showed that the DOX-induced did not significant effect on HSP۷۰ of liver tissue of rats in different ages (young, middle-aged and elderly) ( $P=۰.۲۷۲$ ). DOX-induced had a significant effect on MDA ( $P=۰.۰۰۲$ ), PC ( $P=۰.۰۰۲$ ) and GPx ( $P=۰.۰۰۱$ ) of liver tissue of rats in different ages (young, middle-aged and elderly). Pre-treatment with aerobic exercise had a significant effect on changes of HSP۷۰ ( $P=۰.۰۰۱$ ), MDA ( $P=۰.۰۰۱$ ), PC ( $P=۰.۰۰۱$ ) and GPx ( $P=۰.۰۰۱$ ) in DOX-induced liver in different ages rats (young, middle-aged and elderly. There was any significant difference between the levels of HSP۷۰ ( $P=۰.۷۴۱$ ), MDA ( $P=۰.۵۳۹$ ), PC ( $P=۰.۰۷۵$ ) and GPx ( $P=۰.۰۷۱$ ) liver tissue in different ages (young, middle-aged and elderly) with pre-treatment and aerobic exercise. **Conclusion:** Our study suggests that liver protection induced by chronically exercise in DOX treated rats is associated with inhibition of oxidative stress and increase in the efficiency of antioxidant system

## کلمات کلیدی:

Exercise Training, Doxorubicin, Hepatic Oxidative Stress, Rats, Exercise Training, Doxorubicin, Hepatic Oxidative Stress, Rats

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