

عنوان مقاله:

Carvacrol attenuated neuroinflammation, oxidative stress and depression and anxiety like behaviors in lipopolysaccharide-challenged rats

محل انتشار:

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تعداد صفحات اصل مقاله: 13

نویسندگان:

Hossein Salmani - *Student Research Committee, Jiroft University of Medical Sciences, Jiroft, Iran*

Zahra Hakimi - *Faculty of Medicine, Ghalib University, Herat, Afghanistan*

Zohre Arab - *Neuroscience Research Center, Mashhad University of Medical Sciences, Mashhad, Iran*

Narges Marefati - *Department of Physiology and Medical Physics, Faculty of Medicine, Baqiyatallah University of Medical Sciences, Tehran, Iran*

Mohammad Reza Mahdinezhad - *Applied Biomedical Research Center, Mashhad University of Medical Sciences, Mashhad, Iran*

Abolfazl RezaeiGolestan - *Applied Biomedical Research Center, Mashhad University of Medical Sciences, Mashhad, Iran*

Farimah Beheshti - *Neuroscience Research Center, Torbat Heydariyeh University of Medical Sciences, Torbat Heydariyeh, Iran*

Mohammad Soukhtanloo - *Department of Biochemistry, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran*

AmirAli Mahnia - *Psychiatry and Behavioral Sciences Research Center, Mashhad University of Medical Sciences, Mashhad, Iran*

Mahmoud Hosseini - *Psychiatry and Behavioral Sciences Research Center, Mashhad University of Medical Sciences, Mashhad, Iran*

خلاصه مقاله:

Objective: The beneficial effect of carvacrol on neuroinflammation, oxidative damage of brain tissue, and depressive- and anxiety-like behaviors after lipopolysaccharide (LPS) administration were evaluated in rats. **Materials and Methods:** Vehicle (1% Tween ۸۰), ۱ mg/kg of LPS, and carvacrol (۲۵, ۵۰, or ۱۰۰ mg/kg administered prior to LPS) were injected and behavioral and biochemical tests were done. **Results:** The results of forced swim test revealed that carvacrol attenuated immobility time and increased activity and climbing times ($p < 0.05$ to $p < 0.001$). The results of elevated plus maze also revealed that treatment by carvacrol prolonged the open arms time and entries and decreased the time and

entries in the closed arms ($p < 0.05$ to $p < 0.01$). Carvacrol enhanced crossing, time, and traveled distance in the central segment of the open field and increased total crossing and distance while attenuating the peripheral zone time ($p < 0.05$ to $p < 0.001$). All doses of carvacrol attenuated TNF- α (tumor necrosis factor α) and NO (nitric oxide) in the brain ($p < 0.01$ to $p < 0.001$). The 50 and the 100 mg/kg doses of carvacrol decreased malondialdehyde ($p < 0.001$ for both), and the 100 mg/kg dose of carvacrol increased the content of the thiol ($p < 0.001$). Conclusion: In conclusion, carvacrol improved the behavioral consequences of LPS challenge and attenuated neuroinflammation and brain tissue oxidative stress in rats

کلمات کلیدی:

Inflammation, Anxiety, Depression, Carvacrol, Oxidative stress

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