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Protective effects of rutin on acute lung injury induced by oleic acid in rats

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The purpose of this study is to explore the protective effects of different doses of rutin with the antioxidant and anti-inflammatory properties on acute lung injury (ALI) induced by oleic acid (OA) in rats. 35 Sprague-Dawley male rats were randomly separated into five groups: comprising control, rutin 150 mg, OA, rutin 75 mg+OA and rutin 150 mg+OA. In the rutin 75 mg+OA group, the malondialdehyde level (MDA) was significantly lower than that of the OA group. In the rutin 75 mg+OA group, the GPx, GSH, CAT and SOD levels were significantly higher than those of the OA group, and significantly lower than those of the control group. In the rutin 150 mg+OA group, the MDA level was significantly lower than that of the OA group. In the rutin 150 mg+OA group, the GPx, GSH, CAT and SOD levels were significantly higher than those of the OA group, and when compared to the control group the GPx, CAT and SOD levels did not have any difference, but the GSH levels were significantly lower. In the rutin 75 mg+OA and rutin 150 mg+OA groups, iNOS expressions in the interstitial parts of the lungs were significantly lower than those of the OA group. The iNOS expression was lower in the 150 mg+OA group compared to the rutin 75 mg+OA group. It was concluded that on the ALI induced by OA, rutin had protective effects through the antioxidant and anti-inflammatory properties and that this protective effect of rutin was higher in the 150 mg/kg dose compared to the 75 mg/kg dose and that the application of rutin as a supportive treatment in ALI would be beneficial.

Biography

Mustafa Sinan Aktaş has completed his PhD from Ankara University in Turkey. He has been working as an Associate Professor in the Atatürk University, Veterinary Faculty, and Department of Internal Medicine.

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