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The Antioxidant Activity and the Effects of *Convolvulus Aucheri* (Convolvulaceae) Extract on Biochemical Indices in Rats

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Convolvulus L., the second largest genus of the family Convolvulaceae, has about 250 species distributed mainly in the temperate and tropical regions of the world, with a cosmopolitan distribution. According to recent studies, this genus is represented in Turkey by 33 species, 9 of which are endemic. *Convolvulus* species are extensively used in traditional medicine for various purposes as in ulcer treatment, diabetes, and tension. The aim of this study was to investigate the antioxidant activity and the effects of *Convolvulus aucheri* extract on biochemical indices in rats.

The antioxidant activities of various solvent extracts (methanol, ethanol, acetone and benzene) obtained from *C. aucheri* were evaluated by using 2,2-diphenyl-1-picrylhydrazyl (DPPH) and β-carotene-linoleic acid assays. In addition, total phenolic contents in all the extracts of *C. aucheri* were determined as gallic acid equivalents. As for the biochemical assay, the extracts of the plant at the concentrations of 0.5 and 1 ml/100 g body weight/day were administered orally to the experimental groups for 36 days. Blood samples were taken by cardiac venipuncture on the 2nd and 4th weeks after the initial treatment. Aspartate aminotransferase (AST), alanine aminotransferase (ALT), gamma-glutamyltransferase (GGT) and blood urea nitrogen (BUN) were measured for the determination of liver function.

Among all the extracts, the ethanolic extracts of *C. aucheri* showed the highest antioxidant activity (66.88 ± 0.8%). The highest free radical scavenging activity (59.50 ± 1.2%) was recorded on the ethanolic extracts. The phenolic contents of the ethanolic extracts are higher than the other types of extracts (23.03 mg/g GAE). In biochemical assay, it was found a significant increase in the levels of serum ALT, AST and decrease the serum GGT levels in the experimental groups when compared to the controls ($p<0.05$). On the other hand, we found significant increase in the level of BUN.

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