ABSTRACT: In this study, it was aimed to determine the preventive effects of rose water against toxicological effects of chlorpyrifos-ethyl (CPE). Group I was the control group, group II received CPE (0.3 mg/kg/day), group III received water solution of rose extract (WR, 100 mg/kg/day), while group IV received WR + CPE. The rats were sacrificed after 15 days of the experiment to collect blood samples, liver and kidney tissue. The results showed that, compared to the CPE group, there was a significant (p<0.001) decrease in the activities of GGT, ALT, AST, lipase enzymes and MDA levels, while a significant (p<0.001) increase was observed in the actual words (TAC) and platelet (PLT) levels in the CPE + WR group. Between the control and WR groups, TAC, WBC and CAT levels were significantly (p<0.001) higher, while TOC and OSI levels were significantly (p<0.001) lower in the WR group. The highest OSI levels were determined in the CPE group (1.12 μmol H2O2 equ./L) followed by CPE + RW (1.02 μmol H2O2 equ./L), (0.93 μmol H2O2 equ./L) and RW (0.87 μmol H2O2 equ./L) groups. PON and ARE were found to be significantly (p<0.001) low in the CPE and CPE + RW groups. In between these two groups of CPE and CPE + RW, the levels of PON and ARE were found significantly (p<0.001) higher in the CPE + RW group. A residue of CPE was also detected in the groups II and IV. In conclusion, it can be said that WR showed some positive effects on the enzymes of liver and haematological parameters in rats, and reduced the toxic effects of CPE.

KEYWORDS:
Chlorpyrifos-ethyl, preventive effects, rat, rose water