

Electrocardiogram alterations following one-week consumption of crocus sativus L. (saffron)

Siyavash Joukar^{a, b}

^aPhysiology Research Center, ^bDepartment of Physiology and Pharmacology,
Kerman University of Medical Sciences, Kerman, Iran. Email: sjokar@gmail.com,
jokar@kmu.ac.ir

Abstract

Considering the global popularity and also the various biological and medicinal properties of saffron, this study was conducted to assess the influence of its aqueous extracts administration on blood pressure, pressure-rate product (PRP) and electrocardiogram (ECG) indices of rat. Animals were divided to control (CTL), SAF50, SAF100, and SAF200 groups that orally received tap water, aqueous extracts of saffron 50, 100 and 200 mg/kg/day respectively for seven days. On day 8, data were recorded. Different doses of saffron had no significant effect on blood pressure and also PRP. Higher dose (200 mg/kg) of saffron significantly increased the PR Interval, P Duration, QT Interval ($p < 0.01$), QRS Interval, QTcn (normalized corrected QT) ($p < 0.001$), and JT interval ($p < 0.05$) of ECG compared to the CTL group. In addition, the two other doses only significantly prolonged the QT, QTcn and JT intervals of ECG versus the CTL group. The SAF200 group also showed a notable increase in RR interval which only it was significant versus to the SAF50. There was no significant difference among the ST height and T amplitude ranges of different groups. The results suggest that high dose of saffron definitely slows the electrical conduction propagation in both atrium and ventricle.

Keywords: crocus sativus L. (saffron), electrocardiogram (ECG), heart electrical conduction, Blood pressure, PRP