

LETTER TO THE EDITOR

Answer to the Letter to the Editor concerning 'Effects of quercetin and fish n-3 fatty acids on testicular injury induced by ethanol in rats'

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Dear editor,

We appreciate the interest and comments by Eid and colleagues concerning our article entitled "Effects of quercetin and fish n-3 fatty acids on testicular injury induced by ethanol in rats"

Figures 1 panel c and 2 panel c were accidentally mistaken in the image editing stage. This has been corrected in an erratum notice.

In the legend of fig. 1, we mentioned that S is abbreviation of Sertoli cells and V indicates vacuole. Even if these abbreviations are not clear in images of fig. 1, these could be recognised in colour images.

We think that Leydig cell atrophy is correlated with decreased testosterone levels in the ethanol group. In our study, a significant decrease was observed in the serum testosterone levels of the ethanol group in comparison with the control group.

In our study, the numbers of apoptotic cells were increased in the ethanol group. We think that the cause of vacuoles in the seminiferous tubules of the ethanol group is loss of germ cell resulting from apoptosis and vacuolisation in Sertoli cells of the ethanol group. Sertoli cells are the primary cellular target of ethanol toxicity. Ethanol administration leads to structural damage in Sertoli cells. Sertoli cell vacuolisation is a marker of ethanol-induced testicular damage.

Additionally, we found that nitric oxide (NO) levels increased in the ethanol group compared with the control group. These increased NO levels may induce germ

cell apoptosis. Furthermore, NO has an inhibitory effect on testosterone release. According to our results, increased NO levels were shown to be closely associated with oxidative stress, apoptosis of germ cells and decreased testosterone levels.

In our research laboratory, we do not have any opportunities to observe in electron microscopy and iNOS staining for further analyses. We are planning to cite Eid and collaborators' studies in our new ethanol studies.

R. Uygur¹, M. Yagmurca², O. A. Alkoc³,
A. Genc⁴, A. Songur⁵, K. Ucok⁴, & O. A. Ozen¹

¹Department of Anatomy, Faculty of Medicine, Namik Kemal University, Tekirdag, Turkey; ²Department of Histology and Embryology, Faculty of Medicine, Turgut Ozal, Ankara, Turkey; ³Department of Anatomy, Faculty of Medicine, Istanbul Medeniyet University, Istanbul, Turkey; ⁴Department of Physiology, Faculty of Medicine, Afyon Kocatepe University, Afyonkarahisar, Turkey; ⁵Department of Anatomy, Faculty of Medicine, Afyon Kocatepe University, Afyonkarahisar, Turkey

E-mail: fztramazan@hotmail.com

Reference

Uygur R, Yagmurca M, Alkoc OA, Genc A, Songur A, Ucok K, Ozen OA (2014) Effects of quercetin and fish n-3 fatty acids on testicular injury induced by ethanol in rats. *Andrologia* 46:356–369.