

## THE EFFECTS OF ACRYLAMIDE AND VITAMIN E ADMINISTRATION DURING PREGNANCY ON ADULT RAT OVARY TISSUES

Mehmet Erman Erdemli<sup>1</sup>, Zeliha Selamoglu<sup>2</sup>, Yusuf Turkoz<sup>3</sup>

<sup>1</sup>Department of Medical Biochemistry, Faculty of Medicine, Nigde Ömer Halisdemir University, Nigde, Turkey

<sup>2</sup>Department of Medical Biology, Faculty of Medicine, Nigde Ömer Halisdemir University, Nigde, Turkey

<sup>3</sup>Department of Medical Biochemistry, Faculty of Medicine, Inonu University, Malatya, Turkey

**T**o investigate changes in adult female rat ovary tissue following acrylamide (AA) and vitamin E administration during pregnancy. The present study was conducted with the approval of the experimental animals ethics committee at Inonu University, Faculty of Medicine (2017 / A-11). Thirty rats, confirmed to be pregnant with vaginal smear, were divided into 5 different groups that included equal number of pregnant rats: Control, Corn oil, Vitamin E, Acrylamide, Vitamin E + Acrylamide Groups. The birth was monitored on the 21st day of gestation and female rats were selected and at the end of 8 weeks, the rats were decapitated. Rat ovary tissues were examined for malondialdehyde (MDA), reduced glutathione (GSH), total antioxidant status (TAS), total oxidant status (TOS) and superoxide dismutase (SOD), catalase (CAT) and nitric oxide (NO) levels. It was determined that AA had a negative effect on oxidant-antioxidant parameters (MDA, GSH, NO, SOD, CAT, TAS, TOS) in the ovary tissue ( $P < 0.05$ ), whereas Vitamin E administration increased GSH, TAS, NO, SOD, CAT levels ( $P < 0.05$ ). It is unlikely to be exposed to food-borne AA toxicity and AA toxicity could lead to permanent damages. It is certain that infertility incidences are increasing among the population every day. Vitamin E is observed to have protective effects against AA toxicity, however further studies are required.

**Keywords:** Pregnancy, acrylamide, Vitamin E, ovary, oxidative stress.

### Biography

Zeliha Selamoglu is a Professor in Medical Biology department of Nigde Ömer Halisdemir University, Turkey. She earned her PhD in Biology from Inonu University, She has published over 90 peerreviewed journal articles with over 760 citations and many technical reports. She is a member of Society for Experimental Biology and Medicine: Associate Membership and European association for cancer research. She has served as Editorial Board member for many Journals.

zselamoglu@ohu.edu.tr