

3rd World Congress on

HUMAN GENETICS AND GENETIC DISORDERS

October 20-21, 2017 | Toronto, Canada

Diazepam induced oxidative DNA damage in cultured human lymphocytes

Duaa H Almomani¹, Mohammad Azab², Omar F Khabour¹ and Karem H Alzoubi¹¹Jordan University of Science and Technology, Jordan²The Hashemite University, Jordan

Diazepam is a benzodiazepine compound that is mainly used for anxiety, muscle spasms, seizures and insomnia. Several studies have shown that long-term Diazepam treatment is associated with oxidative stress. In this study, the possible genotoxic effect of Diazepam was examined in cultured human white blood cells using the sister chromatid exchanges (SCEs), chromosomal aberrations (CAs) and 8-hydroxy-deoxyguanosine (8-OHdG) assays. Treatment of cultured lymphocytes with different concentrations of Diazepam (1, 10 and 100 µg/mL) did not induce chromosomal DNA damage as measured using SCEs and CAs assays ($P>0.05$). In addition, no effect was observed on mitotic and proliferative indices ($P>0.05$). However, Diazepam induced oxidative DNA damage as measured by the 8-OHdG assay in a dose dependent manner ($P<0.001$). In conclusion, Diazepam seems to induce oxidative DNA damage in cultured human lymphocytes. More *in vivo* studies are required to confirm current finding.

Biography

Duaa H Almomani has completed her Master's degree in Diagnostic Molecular biology and Human Genetics in 2015, Department of Medical Laboratory Sciences, Faculty of Applied Medical Sciences, Jordan University of Science and technology, Irbid, Jordan. Her experience is in studying the genotoxic effect for drugs by studying the sister chromatid exchange and the chromosome aberration, and she has worked molecular biology in PCR. She also worked as part-time Lecturer, Molecular Diagnostic and Cytogenetics Lab (20015-2016), Department of Medical Laboratory Sciences, Faculty of Applied Medical Sciences, Jordan University of Science and Technology, Irbid, Jordan. She is currently, working as Medical Laboratory Scientist in Princess Iman Center for Laboratory Research, Royal Medical Services, Jordanian Armed Forces, Amman, Jordan.

momaniduaa@yahoo.com

Notes: