CO-ORGANIZED EVENT
International Conference on
Toxicology and Clinical Pharmacology
&
2nd International Conference on
Generic Drugs and Biosimilars
December 14-16, 2017 Rome, Italy

Guruprasad Kalthur et al., Clin Exp Pharmacol 2017, 7:6(Suppl)
DOI: 10.4172/2161-1459-C1-025

Male reproductive toxicity induced by *quinalphos*

Guruprasad Kalthur[1], Sahil Sanghvi[1], Sandhya Kumari[1], Sujit Raj Salian[1], Srinivas Mutalik[2], Sinoy Sugunan[3], Rajanikant G K[3] and **Satish Kumar Adiga[1]**
[1]Kasturba Medical College, India
[2]Manipal University, India
[3]National Institute of Technology, India

Quinalphos is one of the widely used insecticide in India which falls under organophosphate group of pesticides. It is commonly preferred pesticide in cultivation of paddy, mustard and wheat etc. It is highly neurotoxic which inhibits acetylcholinesterase and known to cause neuronal dysfunction. However, there is no much information on its reproductive toxicity. Therefore, this study was undertaken to investigate the effect of quinalphos induced testicular toxicity. For the study, 8 weeks old male Swiss albino mice were orally administered with 0.25, 0.5 and 1 mg/kg body weight of commercially available quinalphos (25%) for 10 days and were observed till 35 days. The mice were dissected to assess the testicular function and epididymal sperm parameters. At none of the doses used in the study, quinalphos induced any significant effect on the sperm count. However, the motility was significantly lower ($p<0.01$) and sperm head abnormalities were significantly higher ($p<0.01$) in quinalphos treated mice indicating that the quality of spermatozoa produced are poor. In addition, an elevated level of DNA damage was observed in the testicular cells of these mice. The pharmacokinetic studies revealed that a high tissue distribution and slow clearance was observed in testicular tissue. The computational interaction analysis revealed its strong interaction with BCHE (butyrylcholinesterase), ESR2 (estrogen receptor 2) and ESR1 (estrogen receptor 1).

Biography

Guruprasad Kalthur is a Professor in Clinical Embryology, Kasturba Medical College, Manipal University, Manipal. He is working as Clinical Embryologist and the Coordinator of the Postgraduate course in Clinical Embryology. He is actively involved in Postgraduate teaching and the research programs in the field of Reproductive Biology. He has received and successfully completed of numerous grants, funded by the Department of Biotechnology (DBT), Department of Science & Technology (DST), Indian Council of Medical Research (ICMR), Department of Health Research (DHR) etc. His major area of research is reproductive toxicology, parthenogenesis, cryopreservation of gametes and embryos and using natural products for improving the gonadal function. He has published more than 60 publications in peer reviewed journals. He is the ICMR International Fellow and has received other fellowships and awards. To name few- Boyscast fellowship, Cutting Edge Research fellowship (CREST), UICC ICRETT fellowship, publication award from Vision group of Science and Technology (VGST), etc.

guru.kalthur@manipal.edu

Notes: