

3rd International Summit on Toxicology & Applied Pharmacology

October 20-22, 2014 DoubleTree by Hilton Hotel Chicago-North Shore, USA

Reproductive toxicity of cyto-static drugs and pharmacological ways to reduce it

T G Borovskaya, Marina E Poluektova, A V Vyshuzhanina and J A Shchemerova
The Goldberg Research Institute of Pharmacology, Russia

Gonads as actively upgrading cell systems are targeted for action of cyto-static drugs. Severity of this side effect varies considerably. At the moment, due to the promising results of treating certain cancers, the number of patients who expects to recover fertility is significantly increased. The aim of this work is to study experimentally the severity of reproductive toxicity (at progenesis) of cyto-static influence of various types (adriamimin, pharmorubicin, platidiam, carboplatin, etoposide, irinotecan, paclitaxel), as well as finding ways to reduce it. Experiments were carried out with Wistar rats of reproductive age. The drugs were administered intravenously in a single minimum pyrogenic dose. Administration of drugs to female rats was found that earliest menopause can be expected under administration of anthracyclines. While maintaining the endocrine status, the partial infertility was detected after administration of doxorubicin. Ability to keep pregnancy was reduced more after administration of paclitaxel. After administration of drugs to male rats it was revealed that two of the drugs – pharmorubicin and paclitaxel – have damaging effect on spermatogonia that leads to sterility of the animals long after administration. Decrease of probability to keep fertility was found long after administration of etoposide and paclitaxel. It was found that busserelin, antioxidants, granulocyte colony-stimulating factor can reduce the toxic influence of cytostatics on gonads.

Biography

T G Borovskaya has graduated from the Tomsk State Medical University got M.D. degree and completed her postdoctoral studies from the Goldberg Research Institute of Pharmacology. She is the head of Laboratory of Pharmacology. She has published 3 monographs, more than 160 papers in reputed journals and is the author of 14 patents. The field of interests covers toxicology, andrology and embryology.