

## **Genotoxicity of gemcitabine low dose in white rat bone marrow cells**

**Abdul Rahman A I Alyahya**  
Shaqra University, Saudi Arabia

Gemcitabine is a modern chemical drug used widely against many serious diseases including advanced cancers such as lung cancer, bladder and ovarian cancers and several blood cancers. Gemcitabine is one of the preferred choices in the treatment of pancreatic cancer. A short-term test was conducted and the drug showed rapid and strong ability to detect toxicity or distorting the material studied in the neighborhood cells. Results showed that there are some changes in cell parameters which can be determined by cellular examination accurately. Exposing male inbred line SWR/J of laboratory mice to low dose of the gemcitabine drug (125 mg/kg) individually and in combination, affected significantly in different time intervals, mitotic divisions, chromosomal aberrations and abnormalities. The severity of abnormalities was increased with the passage of treated time.

alya7ya@su.edu.sa

## **Health risk assessment of hospital wastewater in Enugu, Nigeria**

**Eze Chukwuebuka ThankGod**  
Federal University Oye-Ekiti, Nigeria

The issue of contamination of the environment by hospital and industrial effluent or wastewater has been an issue of concern to the public health of any area where these industries and hospitals are located. This study sets out to determine the level of contamination produced from different hospital wards by the discharge of hospital wastewater at Park Lane General Hospital Enugu, Nigeria. To this end, the microbial load and heavy metal analyses of the hospital wastewater were determined using established procedures. The wastewater samples were collected directly from the outlet of different wards labeled wws<sub>1</sub>, wws<sub>2</sub> and wws<sub>3</sub> with pre-cleaned sterile and dried containers. The isolated pathogenic bacteria included both pathogenic and non-pathogenic bacteria species. The result of the microbial analyses showed mean total aerobic bacteria counts of  $14.40 \pm 0.86 \times 10^{10}$  cfu/ml,  $13.70 \pm 0.65 \times 10^7$  cfu/ml and  $22.8 \pm 1.14 \times 10^{10}$  cfu/ml, for wws<sub>1</sub>, wws<sub>2</sub> and wws<sub>3</sub> respectively. The mean total anaerobic bacteria counts gave  $6.00 \pm 1.60 \times 10^3$  cfu/ml,  $4.00 \pm 2.50 \times 10^3$  cfu/ml and  $1.70 \pm 0.41 \times 10^4$  cfu/ml for wws<sub>1</sub>, wws<sub>2</sub> and wws<sub>3</sub> respectively. The result showed the presence of *Candida albicans*, a pathogenic fungus as the only isolated fungi specie in wws<sub>1</sub> and wws<sub>3</sub> with a population of  $1.70 \pm 0.41 \times 10^3$  cfu/ml and  $2.3 \pm 0.16 \times 10^5$  cfu/ml respectively. No fungi were isolated from wws<sub>2</sub>. The varying mean concentrations of the following heavy metal arsenic, cadmium, lead, mercury and chromium were determined and most were found to be within the threshold of the WHO permissible limit of such metal. Therefore, it would be necessary to properly treat hospital wastewater before discharging into the environment to avoid the possible environmental health risk that might be associated with the discharge of such contaminated water. Close monitoring of the heavy metal concentration of the discharge water is also suggested.

thankgod.eze@fuoye.edu.ng