OMICS Group Conferences
Accelerating Scientific Discovery

2nd World Congress on
Cancer Science & Therapy

September 10-12, 2012 Hilton San Antonio Airport, USA

Sensibility of metrotexate chemotherapy in human laryngeal squamous cell carcinoma hep-2

Ana Lívia Silva Galbiatti[1], Heloisa Cristina Caldas[2], João Armando Padovani Junior[3], Érika Cristina Pavarino[1] and Eny Maria Goloni-Bertollo[1]
[1]Genetics and Molecular Biology Research Unit – UPGEM, FAMERP– São José do Rio Preto Medical School, Brazil
[2]Laboratory of Experimental Immunology and Transplantation / LITEX, FAMERP– São José do Rio Preto Medical School, Brazil
[3]Department of University São José do Rio Preto Medical School – FAMERP, Brazil

Folate plays a key role in one-carbon metabolism essential for the purine, pyrimidine and DNA biosynthesis. Methotrexate (MTX) is an antifolate chemotherapy that acts inhibiting purine and pyrimidine synthesis, which accounts for its efficacy in the cancer therapy. Sensibility of tumor cells to MTX is dose-related and it has impact on the therapeutic efficacy of treatment. We evaluated the response of treatment in Hep-2 laryngeal cancer cells to methotrexate (MTX) chemotherapy in vitro. For this, three different concentrations 0.25 μM, 25 μM, and 75 μM of Metrotexate were added separately in Hep-2 cell lines plated in six-well culture plates for 24 hours at 37 °C. Cells sensibility was evaluated by double staining with fluorescein isothiocyanate (FITC) label Bcl-2 (100: sc-509) by Flow Cytometry Technique. Statistical analysis was performed by Chi square test (X2) to compare the cell viability. Correlation coefficient of Pearson (R2) between the concentrations also was measured. Our results showed that for the treatment with 0.25 uM, 25.0 uM and 75.0 uM MTX concentration, the viable cells were 85,43%, 22.46% and 8.42%, respectively. There was positive association between the 0.25 mM (X2=55.001; p<0.0001), 25 mM (X2=2991.3; p<0.0001) and 75 mM (X2=5091.7; p<0.0001) MTX concentrations. There was a good correlation between cell viability and the different doses of the chemotherapy (R2 = 0.9276). In conclusion, the higher the concentration of MTX chemotherapeutic is associated with lower sensitivity of tumor cells. There are a positive correlation between cell viability and the three different doses of the MTX chemotherapeutic.

Biography

Ana Lívia Silva Galbiatti is a Biologist and Pharmaceutical, has completed his Master Degree in Health Sciences at FAMERP- São José do Rio Preto Medical School, São Paulo-Brazil (2010) and actually she is PhD student in the same University. She has published 14 papers in reputed journals and she is reviewer in some qualified journals.

analivia_sg@yahoo.com.br