

2nd International Conference on **Genomics & Pharmacogenomics**

September 08-10, 2014 DoubleTree by Hilton Hotel Raleigh-Brownstone-University, USA

Genotoxic and histopathological aspects of treatment with grape seed extract on cancer induced with cyclophosphamide in mice

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Cyclophosphamide (CP) is an alkylating agent widely used in cancer chemotherapy. The present study was undertaken to evaluate the natural protective efficacy of methanolic grape seed extract (GSE) against CP-induced genotoxicity and pathologically liver and colon cancer cells in mice. High dose of GSE had a significant reduction of micronuclei and chromosomal aberration frequency than low dose. Mice treated with grape seeds (low & high) dose displayed an improvement in colonic histopathology compared to cyclophosphamide-only mice. After treatment with grape seeds the abnormal pathological findings of liver and colon tissue injury, necrosis were reduced and tissues were protected from oxidative damage. The histopathological observations suggested the possibility of the grape seeds being able to protect the tissues and thus decreasing the damage tissue. In conclusion, the results of our experiments strongly suggest the cancer chemoprotective effect of the methanolic grape seeds extract and this may be due to the stimulation of the antioxidant as immune as well system.

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