

## Evaluation of Chemoprotective Effect of NBRIQU16 against N-Methyl-N-Nitro-N-Nitrosoguanidine and NaCl-Induced Gastric Carcinomas in Wistar Rats

**Authors :** Lubna Azmi, Ila Shukla, Shyam Sundar Gupta, Padam Kant, C. V. Rao

**Abstract :** To investigate the chemoprotective potential of NBRIQU16 chemotype isolated from *Argyrea speciosa* (Family: Convolvulaceae) on N-methyl-N-nitro-N-nitrosoguanidine (MNNG) and NaCl-induced gastric carcinomas in Wistar rats. Forty-six male 6-week-old Wistar rats were divided into two groups. Thirty rats in group A were fed with a diet supplemented with 8 % NaCl for 20 weeks and simultaneously given N-methyl-N'-nitro-N-nitrosoguanidine (MNNG) in drinking water at a concentration of 100 ug/ml for the first 17 weeks. After administration of the carcinogen, 200 and 400 mg/kg of NBRIQU16 were administered orally once a day throughout the study. From week 18, these rats were given normal water. From week 21, these rats were fed with a normal diet for 15 weeks. Group B containing 16 rats was fed standard diet for thirty-five days. It served as control. Ten rats from group A were sacrificed after 20 weeks. Scarification of remaining animals was conducted after 35 weeks. Entire stomach and some part of the duodenum were incised parallel to the greater curvature, and the samples were collected. After opening the stomach location and size of tumors were recorded. The number of tumors with their locations and sizes were recorded. Expression of survivin was examined by recording the Immunohistochemistry of the specimens. The treatment with NBRIQU16 significantly reduced the nodule incidence and nodule multiplicity in the rats after MNNG administration. Surviving expression in glandular stomachs of normal rats, of rats in middle induction period, in adenocarcinomas and NBRIQU16 treated tissues adjacent to tumor were 0, 42.0 %, 79.3%, and 36.4 %, respectively. Expression of survivin was significantly different as compared to the normal rats. Histological observations of stomach tissues too correlated with the biochemical observations. These finding powerfully supports that NBRIQU16 chemopreventive effect by suppressing the tumor burden and restoring the activities of gastric cancer marker enzymes on MNNG and NaCl-induced gastric carcinomas in Wistar rats.

**Keywords :** *Argyrea speciosa*, gastric carcinoma, immunochemistry, NBRIQU16

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