



ABSTRACT

The study determined the histopathologic effects of *Armoracia rusticana* P. Gaertn., B. Mey & Scherb. (Horseradish) with and without Vitamin K supplementation on colon tumor-induced Sprague-Dawley rats. Ten doses of 20 mg/kg body weight 1,2-dimethylhydrazine every other day and a single dose of 40 mg/kg body weight 7,12-dimethylbenz[a]anthracene administered intraperitoneally for three weeks were done to induce colon tumor. Readily available capsules and tablets of Horseradish and Vitamin K dissolved in water were used to achieve the 50% and 75% concentration. Post tumor induction, the extracts were administered orally every day and 5 – fluorouracil once a week was administered intravenously for two weeks. After the treatment period, surviving nine rats out of 24 were euthanized and dissected. The lungs, stomach, liver, small intestine and large intestine were subjected to histopathological examination in comparison with a study in 2011 describing histological characteristics of colon tissue induced with 1,2 – DMH and 7,12 - DMBA. Results show successful tumor induction in the form of granuloma in all treatment groups except 5 - fluorouracil and 50% concentration of *A. rusticana* as well as lesions in the lungs, liver and small intestine. In conclusion, only 5 – fluorouracil and *A. rusticana* at 50% concentration alone halted the development of tumor. Moreover, Vitamin K supplementation did not help in the reduction of the number and size of tumors induced.

Key words: *Armoracia rusticana*, Horseradish, Vitamin K, Histopathology, Colon tumor