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# Imperative effect of wheatgrass on tumor marker and histology of experimentally induced colon cancer in rats

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Colorectal cancer (CRC) is most common forms of gastrointestinal cancer. Differences in colon cancer incidence are attributed to environmental & dietary factors. Wheatgrass is powerhouse of nutrients & vitamins for human body. It is believed to treat number of conditions like common cold, cough, eczema, etc. Total Sialic acid (TSA) level in serum is sensitive marker for early diagnosis of colorectal cancer. Thus, aim of study was to determine effect of wheatgrass in experimentally induced colon cancer in rats. Twenty four adult Sprague Dawley rats were divided into 4 groups. Group1: Rats were fed on normal diet and administered with normal saline subcutaneously. Group2: 1,2 dimethylhydrazine (DMH) was administered subcutaneously at 30 mg/Kg b.wt dose once/week for 16 weeks. Group 3: Wheatgrass was administered orally 100mg/100g b.wt dose in drinking water along with DMH injection. Group 4: Wheatgrass was administered orally 100mg/100g b.wt dose in drinking water. Wheatgrass treatment was started 2 weeks prior to administration of DMH. TSA level was measured in serum and histological studies were also conducted. A significant increase ($P<0.001$) in levels of TSA was observed following DMH treatment at 8 (47.5±5.1 mg/dl) and 16 weeks (66.4±7.5 mg/dl). However, wheatgrass supplementation reduced TSA levels at 8 and 16 weeks but decrease was significant ($P<0.001$) only at 16 weeks. Histologically, rats treated with DMH showed carcinoma with variably sized irregular glands. In wheatgrass supplemented group, dysplasial changes were reduced with focal crypt distortion and mild to moderate mononuclear inflammatory cells in lamina propria. The present study indicated that supplementation of wheatgrass in colon carcinogenesis has positive beneficial effect, reducing adverse effects of DMH.

## Biography

S V Rana is working as Faculty in the field of Clinical Biochemistry related to Gastroenterology since 1988. Throughout her career; she has worked on non-invasive diagnostic tests for various gastrointestinal diseases. Her field of specialization is colorectal cancer, gall bladder cancer and pancreatic cancer. She is actively involved in the research studies related to pathological, risk factors and preventive aspects of cancer. Her expertise is also in oxidative stress and antioxidants in different gastrointestinal diseases, hepatotoxicity and its prevention, role of non-invasive hydrogen breath in different gastrointestinal diseases. She has published various research papers and review articles in national and international journals.

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