
**Abstract**

The effect of fenugreek seeds on the activities of β-glucuronidase and mucinase during 1,2 dimethylhydrazine (DMH)-induced colon carcinogenesis in rats was studied. Rats were given a weekly subcutaneous injection of DMH at a dose of 20 mg/kg body weight, for 15 weeks. Fenugreek seed powder was weighed depending upon the weight of individual rats and incorporated in the powdered pellet diet at a dose of 2 g/ kg body weight. After an experimental period of 30 weeks the activity of β-glucuronidase significantly increased in the colon, intestine, liver and colon contents in DMH administered rats when compared to an untreated control group. Increase in β-glucuronidase may increase the hydrolysis of carcinogen-glucuronide conjugate, liberating carcinogen and/or co-carcinogen within the colonic lumen. Inclusion of fenugreek seed powder in the diet significantly decreased the activity of β-glucuronidase in all the tissues studied. This may prevent the free carcinogens from acting on colonocytes. Mucinase helps in hydrolysing the protective mucin. Mucinase activity was increased in the colon content and fecal content of animals given DMH when compared to control, while the activity was significantly reduced in animals given DMH + fenugreek when compared to animals given DMH only. Our study shows that supplementation of fenugreek seeds in the diet inhibits colon carcinogenesis, by modulating the activities of β-glucuronidase and mucinase. The beneficial effect may be attributed to the presence of fibre, flavonoids and/or saponins.