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CHEMOPREVENTION OF COLON AND MAMMARY CANCER BY THE KOREAN FOOD STUFFS

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In the present study, we examined the chemopreventive effects of indole-3-carbinol (I3C), a constituent of cruciferous vegetables (the Family of *Cruciferae*) such as cabbages, cauliflowers and broccoli on multiple intestinal neoplasia (Min) genetic mouse model and on mouse colon carcinogenesis induced by azoxymethane (AOM) as well as on rat mammary carcinogenesis induced by 7,12-dimethylbenz[*a*]anthracene (DMBA). Powdered AIN-76A diets (Harlan Teklad Research Diets, Madison, USA) containing 100 or 300 ppm I3C (groups 1 or 2) or the same diets pelleted without supplement (group 3) were fed to 6 week old male C57BL/6J-*Apc*^{Min/+} (*Min*+) mice (The Jackson Laboratory, Bar Harbor, ME, USA) for 10 weeks. In addition, the same diets were given to wild-type normal C57BL/6J-*Apc*^{Min/+} littermates after AOM initiation. The incidences of the colonic adenomatous polyps in the groups 1, 2 and 3 were 60% (12/20), 60% (15/25) and 84% (21/25), respectively. Total numbers of aberrant crypt foci (ACF) or aberrant crypts (AC)/colon in wild type mice of groups 4 or 5 were decreased significantly compared with those of the AOM alone group (group 6) ($P < 0.01$). The tumor numbers of mammary tumors per rat of the DMBA+I3C 100 or 300 ppm groups (2.08 ± 0.61 , 1.19 ± 0.32) were significantly decreased compared with DMBA alone group (4.63 ± 0.72). These results suggest that I3C may be a potential chemopreventive agent for colon and mammary cancer.