Abstract

Non steroidal anti inflammatory drugs (NSAIDs) are efficacious in chemoprevention of colorectal cancer. Therefore, the potential ability of Etoricoxib, a selective cycloxygenase-2(COX-2) inhibitor and Diclofenac, a preferential COX-2 inhibitor are considered in the chemoprevention of 1, 2-dimethylhydrazine (DMH) induced colon carcinogenesis in rat model. DMH was injected s.c. for six weeks while Etoricoxib and Diclofenac were fed daily orally alone and also in combination with an weekly subcutaneous injection of 1,2-dimethylhydrazine dihydrochloride (DMH) to the rats. After the treatment period of 6 weeks the animals were sacrificed by an overdose of ether anesthesia and the colonic tissues were removed and studied by the FTIR and NMR Spectroscopic techniques to evaluate the changes occurring in the lipid bilayer of colonic membrane lipids. The alterations in wave number of FTIR spectra as well as the chemical shifts of NMR spectra were recorded which signify the modulation of membrane lipids during colon carcinogenesis and possible cancer prevention by the oral administration of NSAIDs in an experimental model of chemical induced colon carcinogenesis.

Keywords
Colon cancer, Chemoprevention, Etoricoxib, Diclofenac, DMH, FTIR, NMR.