

Effect of diclofenac on colonic motility in experimental irritable bowel syndrome

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The goal of the study was to investigate the effect of non-selective COX inhibitor diclofenac on colonic motility in a rat model of irritable bowel syndrome (IBS) in a tissue bath setup. IBS was provoked in rats by intracolonic injection of 0.5% acetic acid on postnatal days 8-21. At the end of the 8 weeks, tissue bath tests were carried out on distal and proximal colons. Diclofenac significantly lowered the mean pressure value (MPV) of distal colon in control rats ($P < 0.05$) when compared in rats with IBS. Additionally, diclofenac had no significant effect on the MPV of spontaneous contractions in proximal colonic segments in both control and IBS. Histological examination revealed no significant differences between the groups. Immunoreactivity for COX-2 was significantly increased in distal colon of IBS rats compared with controls, while immunoreactivity for COX-1 was not different between groups ($P < 0.05$). Increased COX-2 products may responsible from decreased diclofenac responses in distal colon of rats with IBS.

Keywords: Intestinal inflammation, Non-selective COX inhibition, Smooth muscle contraction, Irritable bowel syndrome model, Immunohistochemistry analysis, Diclofenac response