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MicroRNA expression varies depending on the site of inflammation during ulcerative colitis

Jaishree Paul¹, Raju Ranjha¹ and Vineet Ahuja²

¹Jawaharlal Nehru University, India

²All India Institute of Medical Sciences, New Delhi, India

Ulcerative colitis (UC) is a type of inflammatory bowel disease, considered as an important disease of gastrointestinal tract having a huge impact on the health of the patient. The current study was performed to dissect out the site specific miRNA expression in the colon biopsy samples of UC patients from Northern India. Biopsy samples were collected from UC patients and healthy controls from Rectosigmoid area (RS) and Ascending Colon (AC). MicroRNA expression was compared between patients with RS and AC using a microarray platform. Differential expression was further validated by Real Time PCR analysis. Upon analysis of data generated on a microarray platform and qRT PCR revealed that the expression of six miRNAs hsa-miR-146b-5p, hsa-miR-335-3p, hsa-miR-342-3p, hsa-miR-644b-3p, hsa-miR-491-3p, hsa-miR-4732-3p were downregulated in patients where RS was involved as compared to AC. The expression of hsa-miR-141-3p was upregulated in patients where RS region was involved as compared to AC. Analysis of the registered UC patient's database from the hospital revealed that the site of CRC was predominantly the rectosigmoid region of the colon in most of the cases. This is the first study to show the differential expression of miRNA involving different sites of colon in UC patients. Taking our data and previous reports into consideration, we propose that differential miRNA expression during UC perhaps contribute in the development of UC associated CRC at the rectosigmoid area.

jpaul33@hotmail.com

Evaluation of gastroprotective effects of aqueous stem bark extract of *Ziziphus jujuba* L., against HCl/ethanol-induced gastric mucosal injury in rats

Shokouhsadat Hamedi and Amir Ali Arian

Mashhad University of Medical Sciences, Iran

Introduction: *Ziziphus jujuba* stem bark is used in Iranian traditional medicine as a treatment of many diseases specially, gastrointestinal disease and wound healing. Based on traditional books, the present investigation evaluated the gastro protective effects of standardized aqueous extracts of *Z. jujuba* stem bark against acidified ethanol-induced gastric ulcers as well as anti-helicobacter pylori activity of the plant extract.

Materials & Methods: Five groups of rats were orally pre-treated with normal saline (0.9%) as ulcer group, 150 mg/kg of ranitidine as positive group, 100 mg, 200 mg and 400 mg of standardized extract solution as the experimental groups, respectively. Two hours later, acidified ethanol solution was given orally in order to induction of gastric ulcer. Antibacterial against clinical strains of *H. pylori* evaluated through disc diffusion method.

Results: Ulcer group exhibited significantly severe mucosal injury as compared with ranitidine or extract which shows significant protection towards gastric mucosal injury the plant promotes ulcer protection as it shows significant reduction of ulcer area, and histology showed marked reduction of edema in mucosal and submucosal layer compared with ulcer group. *Z. jujuba* stem bark extract had no effects against on *H. pylori*.

Conclusion: The present study indicates that *Z. jujuba* stem bark extract have potential antiulcer activity which might be due to its anti-secretory activity and increased resistance to necrotizing agents, providing a direct, protective effect on the gastric mucosa. Our study showed that anti- *H. pylori* activity is not among gastroprotective mechanism of *Z. jujuba*. Further pre-clinical and clinical investigation for evaluating natural active agents and efficacy of this plant is recommended.

HamediSH1@mums.ac.ir