***Arabinoxylan alleviates acute colitis by altering colon symptoms***

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Inflammatory bowel disease (IBD), an idiopathic inflammatory disease in the gastrointestinal tract, is one of the claimed diseases that caused by dysbiosis and affects a significant global human population. Nowadays, several treatments have been used to cure IBD; however, traditional treatments often have side-effects. Therefore, new treatments which are based on natural products and have little side-effects are in urgent need. Polysaccharides, as natural products, were reported to have beneficial effects on treatment of IBD, especially acute colitis. Polysaccharides are the edible parts of plants or analogous carbohydrates that are resistant to digestion and absorption in the human small intestine with complete or partial fermentation in the large intestine. However, the mechanism for effects of polysaccharide intervention on acute colitis is largely unknown. Arabinoxylan is one representative kind of polysaccharide, recently, we have isolated a pure and homogeneous arabinoxylan from the seeds of Plantago asiatica L. It was given orally to mice before, during and after dextran sodium sulfate (DSS)-induced acute colitis. Treatments with different doses of arabinoxylan could reduce the weight loss induced by DSS. Administrations of arabinoxylan also resulted in an obvious reduction in colitis related symptoms in colon tissues. In addition, arabinoxylan intake could attenuate colitis-associated gene expression and production of cytokines in colon tissues. Our study highlights extraordinary potential of prebiotics in colonic inflammation and can be adapted to the study of other inflammations.