

Accepted Manuscript

Mucus Protectors: Promising Therapeutic Strategies for Inflammatory Bowel Disease

Hui-Min Wu, Juan Wei, Kai Wang, Ying Qi, Fang-Yu Wang

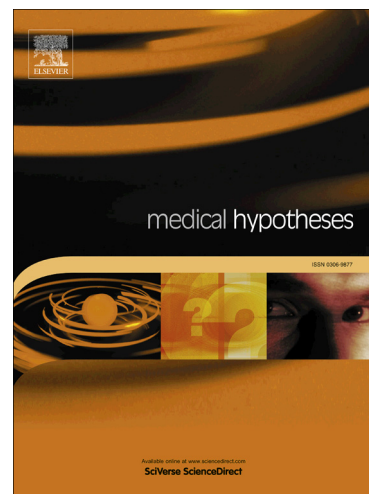
PII: S0306-9877(18)30460-2
DOI: <https://doi.org/10.1016/j.mehy.2018.08.013>
Reference: YMEHY 8962

To appear in: *Medical Hypotheses*

Received Date: 24 April 2018
Revised Date: 10 August 2018
Accepted Date: 16 August 2018

Please cite this article as: H-M. Wu, J. Wei, K. Wang, Y. Qi, F-Y. Wang, Mucus Protectors: Promising Therapeutic Strategies for Inflammatory Bowel Disease, *Medical Hypotheses* (2018), doi: <https://doi.org/10.1016/j.mehy.2018.08.013>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Mucus Protectors: Promising Therapeutic Strategies for

Inflammatory Bowel Disease

Hui-Min Wu¹, PhD; Juan Wei, PhD¹; Kai Wang², PhD; Ying Qi¹, PhD; Fang-Yu Wang^{1*}, PhD

¹Department of Gastroenterology and Hepatology, Jinling Hospital, Medical School of Nanjing University

²Department of General Surgery, Jinling Hospital, Medical School of Nanjing University

*Corresponding author. Department of Gastroenterology and Hepatology, Jinling Hospital, Medical School of Nanjing University, Zhongshan East Road No.305, Nanjing 210009, China. Email: wangfy65@nju.edu.cn.

Abstract

Inflammatory bowel disease (IBD) is a group of intestinal non-specific inflammatory diseases with unclear pathogenesis, characterized with the impaired intestinal mucosal barriers and the activated immune system. Mucus layer is the vital protector over the intestinal epithelial cells (IECs). Mucus layer with impaired function could not provide isolated protection for IECs and thus proteases and pathogens from the gut lumen attacked and damaged the epithelial layer. Clinical manifestation and histopathology suggest that IBD might be a self-digestive inflammatory disease caused by digestive enzymes. In this review, we specifically focus on the role of intestinal mucosal barriers and aim to summarize the relationship among mucus layer, self-digestion and inflammation in IBD. We also propose a “*Two Hits*” *Self-Digestion* theory to explain the role of self-digestion and assess the application of mucus protectors to treat IBD.

Keywords

Inflammatory bowel disease (IBD); intestinal epithelial cells (IECs); mucus layer; self-digestion; inflammation

Introduction

Inflammatory bowel disease (IBD) is a term for a group of intestinal non-specific inflammatory diseases, including ulcerative colitis (UC), Crohn's disease (CD), and indeterminate colitis (IC). Peptic ulcer disease (PUD) is the general term for ulcerative diseases above the ligament of Treitz that occur as a result of erosion by digestive juice containing gastric acid and pepsin. PUD and IBD show similarities in terms of their recurrent clinical manifestation, endoscopic features and histopathology, suggesting that there might be common pathogenesis between them involving self-digestion.

Intestinal Mucosa Barrier

Intestine separates the internal environment from the outside world. Barriers are needed for the homeostasis of host–microbial interactions and immune due to abundant commensal microorganisms and immune cells in the mammalian gastrointestinal tract.

Download English Version:

<https://daneshyari.com/en/article/9954735>

Download Persian Version:

<https://daneshyari.com/article/9954735>

[Daneshyari.com](https://daneshyari.com)