

Inflammation in Gastrointestinal Tract and Its Importance

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Inflammation as a response of vascularized tissue to infections and tissue damage, brings cells and molecules of host defense from the circulation to the sites where they are needed to eliminate the offending agent. Inflammatory reactions may be triggered by a variety of stimuli like infections, tissue necrosis, foreign bodies and immune reaction. The mediators of defense include phagocytic leukocytes, antibodies and complement proteins [1].

During normal circumstances, tightly controlled inflammatory responses have a protective effect against any further injury while pathologic inflammation can lead to marked destruction of the extra cellular matrix (ECM) and organ damage [2]. This controlled reactions known as physiologic inflammation and their importance in keeping GI tract health in concordance with Microbiota is widely investigated and proved [3-5]. Attention has been directed to the putative role of low grade mucosal inflammation in irritable bowel syndrome (IBS) on the basis of evidences showing that some patients with IBS have an increased number of inflammatory cells in the colonic and ileal mucosa [6,7]. Induction of mucosal inflammation (caused by infections or any other unknown reason) results in increased permeability of mucosal barrier along small bowel and colon and subsequently activated secretory reflex and stimulated sensory roots among intestine [8].

Inflammation is a prominent component of several important gastrointestinal diseases including gastroesophageal reflux disease, helicobacter pylori infection, eosinophilic gastritis, peptic ulcer disease, inflammatory bowel disease (IBD), celiac disease, pancreatitis, primary sclerosing cholangitis, auto immune hepatitis and various other disease [9,10]. These findings introduced new horizons in discovering novel and more specific therapeutic

approaches for treatment of such patients and nowadays a major part of therapeutic approaches in GI tract is on the base of immunity control and regulation of inflammatory responses [11]. These therapies are founded up on the body of basic scientific research that has implicated various signaling pathways of the GI immunity and could help clinicians and scientists to develop novel target specific and effective therapeutic agents to establish better methods in the battle against Inflammation and inflammatory based diseases of the GI tract.

This way is continuing now and perhaps is waiting for you ...

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