

# Crohn's Disease and Ulcerative Colitis - New Treatment Options

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The research on inflammatory bowel disease (including the Crohn's disease and ulcerative colitis) has been a very active area. New ideas and new treatment options have been constantly proposed and tested. It is very difficult for the physicians who are not in this field to follow up on all the new development. Recently I have one paper published in the World Journal of Gastroenterology. The paper is entitled "Adenosine: An immune modulator of inflammatory bowel diseases." It is a comprehensive review on the physiology and biochemistry of the Adenosine and also explored the potential target of adenosine pathways as new treatment option for the inflammatory bowel disease. It will not be a surprise in the near future that there are new medications developed targeting the adenosine pathway.

In that article, I also extensively reviewed the current understanding of treatment of inflammatory bowel disease. Here I would like to share with you some of the new treatment options. Inflammatory bowel disease is a common and life-long disabling gastrointestinal disease. The etiology for the disease is not known. The underlying mechanism for inflammatory bowel disease was attributed to the complex interplay of genetic, environmental and immunological factors. A large amount of inflammatory factors are involved in the process of inflammatory bowel disease. Many treatments are designed to target these inflammatory factors. The conventional treatment uses the corticosteroids, mesalamine and immunosuppressant. These medications nonspecifically block inflammatory process by suppressing the secretion of cytokines, activation of neutrophiles or other immunocytes. The newer therapies use biologics such as antibodies against TNF- $\alpha$  or  $\alpha$ -integrin molecules to eliminate specific major inflammatory factors or block the accumulation of inflammatory cells to move to the area of inflammation. These medications include Remicade, Cimzia and Tysabri.

Several new emerging treatments have been developed to target other inflammatory factors. Some of them are already in clinical trial. Other approaches to the treatment of IBD currently under investigation include the following:

1. Leukocytapheresis to eliminate effector cells,
2. Administration of probiotics or use of GM CSF to enhance innate immune function,
3. Administration of microbe-derived agents or intestinal parasites to activate the innate immune system by introducing counter regulatory immune responses to cure the establishing inflammation,
4. Administration of anti-CD3 antibody,
5. Autologous hematopoietic stem cell transplant,
6. Extracorporeal photophoresis to restore immune-regulation and adipose stem cell infusion.

As I mentioned in the beginning, this IBD research is a very active area of new development. If you have any questions about your inflammatory bowel disease, please contact Dr. Jeff Ye, North Atlanta Medical & Digestive Care at 770-346-0900. We can help you with the best treatment options for your IBD.