

# Advanced pathophysiology essay samples

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Inflammatory bowel disease (IBD) is a chronic disease that refers to both the Crohn's disease and ulcerative colitis. These two conditions are variants of IBD that often share some pathophysiological similarities and differences. The incidence of Crohn's disease and ulcerative colitis may be influenced by familial or hereditary predisposition (Brant, 2007) that may be relevant in the case of the 38-year old male patient suffering from ulcerative colitis and whose aunt was previously diagnosed with a Crohn's disease. According to Baumgart (2012), a heritability studies of IBD revealed a prominent genetic component. This hereditary disposition is about 75 to 80 percent likely to occur in families having the same IBD type.

The gastrointestinal (GI) system consists of the mouth and then extends to the esophagus, stomach, small intestine, large intestine, and the anus. Both conditions affect the digestive tract, however ulcerative colitis mainly affects the colon and the rectum while the Crohn's disease extends to involve the anus and the mouth. The anatomical involvement of the GI system in Crohn's disease and ulcerative colitis is different. In ulcerative colitis, the inflammatory process only affects the inner lining of the intestinal walls. In Crohn's disease, the inflammation appears in patches that can make the inner lining of the intestine inflamed, swollen and painful (Potter, 2004). The extent of damage in Crohn's disease is more serious as compared to ulcerative colitis because the injury to the tissues may extend across layers of the interstitial tissue and can lead to scarring, ulcerations and other complications. The scarring may also result in the thickening of the interstitial walls that makes it difficult to pass the bowel. The inflammatory response in Crohn's disease may involve the esophagus and down to the

large intestine. Healthy tissues may also be mixed along the inflamed tissues. Between ulcerative colitis and Crohn's disease, the latter produces more serious health consequences and complications.

In the pathophysiology of ulcerative colitis, the inflammation begins along the mucosal layer of the large intestine. It is a chronic inflammatory process that may lead to ulcerations and sores along the intestinal walls and it can cause continuous edema, hemorrhage, and exudation. The extent of the lesion is usually confined only to the intestinal mucosa. Rectal discharges consisting of blood, pus and mucus occurs when the rectum is involved.

Complications of ulcerative colitis may involve intrainestinal complications like a perforated intestine, colon cancer, toxic megacolon and sores or ulcerations. Extraintestinal complications like liver disease, kidney stone, bile duct inflammation, joint problems and osteoporosis are also common.

Crohn's disease and ulcerative colitis also share the same complications like episcleritis, colic arthritis, uveitis, ankylosing spondylosis, renal failure, colitis, gastrointestinal ulcers.

While the extent of the affected tissues of the GI system is limited to the small intestine and the rectum in ulcerative colitis, Crohn's disease has a more expansive effect in GI injury. About 50% of patients with Crohn's disease primarily suffer from the involvement of the distal ileum and the large intestine (Nagelhout and Plaus, 2010), and in some cases it can involve the upper GI system like the esophagus. Deeper layers of the mucosal wall are involved as compared to ulcerative colitis. Only in rare cases that the stomach becomes involved. Crohn's disease usually appears as patches of inflamed tissues, thus this intermittent inflammatory response may mix with

the other healthy tissues in the colon.

The treatment options for ulcerative colitis and Crohn's disease is multifaceted and it is mainly focused on strengthening the immune system and addressing the manifestations of the symptoms. The cure for both conditions remain unclear, however, there is significant improvements in terms of making an early diagnosis of the conditions and treatment of the injuries to the gastrointestinal tract (Baumgart, 2009). Drug medication is a classic form of treatment given for both ulcerative colitis and Crohn's disease. The main objective of pharmacological intervention is to treat the inflammation in the affected area of the gastrointestinal tract and to help prevent potential complications arising from both conditions. Symptoms of diarrhea, pain and bleeding are also managed with medications. Drug intervention in the long term are administered to maintain the suppression of the symptoms in the form of steroids, antibiotics, immunomodulators and biological therapy (Bayless and Hanaueur, 2011). However, in the presence of severe conditions and complications, conservative drug therapy will not suffice in the management of the conditions. Treatment may include surgery in this case. Surgical treatment has different outcomes in both diseases. The colon is surgically removed through the procedure called colectomy in ulcerative colitis and the condition may no longer recur. In Crohn's disease, however, recurrence is possible, even after surgery. It can be noted that surgical procedure is rarely required in mild to moderate ulcerative colitis. The treatment of drug therapy in most cases will suffice because the location of the gastrointestinal tract is more localized and easier to treat with less severe complications. In Crohn's disease, about two third of the patients will

require surgical intervention and the remission is longer in ulcerative colitis than in Crohn's disease where the rate of recurrence is high even after surgery.

It can be concluded, therefore, that between the two forms of inflammatory bowel disease, Crohn's disease has more serious complications and a poor recovery rate. It affects any part of the gastrointestinal tract, unlike ulcerative colitis that has only a localized injury to the gastrointestinal tract confined mostly to the large intestines and in some cases to the rectum. The key to an effective management for ulcerative colitis and Crohn's disease is early diagnosis and treatment to prevent further complications and better recovery from the conditions.

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