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Ulcerative Colitis Pathology
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Introduction
Ulcerative colitis is an autoimmune disorder that affects the gastrointestinal tract, in particularly the colon. It can be defined as intermittent bouts of inflammation within the colon that causes abdominal pain, bloody stools, pain, and diarrhea (Zhang and Li, 2014). The lining of colon becomes irritated and develops ulcers. The cause of the disease is still a mystery; however, researchers believe that environment, genetics, intestinal bacteria and the individual’s immune response all play a role in one's susceptibility of the disease (Zhang and Li, 2014). Ulcerative colitis is included under the umbrella group of inflammatory bowel diseases. This disease can range from moderate to severe symptoms, and can even be fatal.

Pathophysiology
• The underlying pathophysiology of ulcerative colitis can be described as inflammation and ulceration of the mucosal lining of the colon.
• The inflammation usually starts within the area of the rectum and progresses through the colon (Harris & Jelenkensy, 2014).
• The cause of ulcerative colitis is still unknown, but researchers believe that immune system abnormalities and genetics play a role. Risk factors such as environmental factors, dietary habits, use of oral contraceptives, and previous infections are also under investigation (Harris & Jelenkensy, 2014).
• Ulcerative colitis is “limited to the mucosal layers, with varying degrees of infiltrates from lymphocytes, plasma cells, and granulocytes; it also includes the presence of Paneth cell metaplasia which is indicative of chronic inflammation” (Feuerstein & Chieftz, 2014).
• Many research studies are underway regarding the adaptive and innate immune process involved in ulcerative colitis. Research has found a cytokine, IL-23, which is a key process in the early response to microbes, is found to be altered in patients with ulcerative colitis, further suggesting its role in chronic intestinal inflammation (Zhang & Li, 2014).

Diagnostic Criteria and Testing
• Ulcerative colitis can be diagnosed by sigmoidoscopy or biopsy.
• In addition to obtaining a biopsy for diagnosis, laboratory tests can also be obtained.
• Blood tests such as erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) can be collected to determine inflammation within the body.
• Stool studies can be obtained to rule out other disorders such as infections caused by toxins, bacteria, viruses or parasites.
• The definitive diagnosis however, comes from a colonoscopy and biopsy. (Harris & Jelenkensy, 2014).
• Other symptoms include nausea, low grade fever, anemia and weight loss as well as extraintestinal symptoms that include joint disorders and arthritis (Harris & Jelenkensy, 2014).

Significance of Pathophysiology
• The significance of the pathophysiology of ulcerative colitis is that researchers still do not know the cause of the disease, but it is highly evident that there is an immunologic disorder.
• Ulcerative colitis is considered an auto-immune disorder, as the body’s inflammatory system is working in overtime.
• Many of the treatments are aimed at decreasing inflammation and reducing the body’s immune system.
• Medications used for these factors include aminosalicylates, corticosteroids, thiopurines, anti-tumor necrosis factor agents, selective adhesion molecule inhibitors and probiotics (Feuerstein & Chieftz, 2014).

Nursing Implications
The nursing role is extremely important in the disease management of patients with ulcerative colitis.
• Medication adherence can frequently be an issue in patients with this disease, as there are periods of time when there are no signs or symptoms. The patient must be thoroughly educated by nursing to take medication regularly regardless of symptoms or not. This is important as the disease has periods of remission followed by periods of flare-ups (Dudley-Brown, 2012).
• Open communication between the nurse and patient can help combat a flare-up at the start of symptoms instead of when the symptoms become so bad that the patient needs to seek hospital treatment.
• Advanced practice nurses and nurses alike can provide holistic care to patients by addressing not only their physiological problems but also their psychological problems involved with this disease (Dudley-Brown, 2012).

Conclusion
In conclusion, ulcerative colitis is a complicated disease that still has a lot of unknowns. As researchers continue to investigate what may cause the disease, healthcare professionals continue to best manage signs and symptoms as best they can. Many of those with ulcerative colitis fall under the category of having mild to moderate symptoms, with only a small percentage of patients having severe cases of the disease. With this being said, most patients with ulcerative colitis can be medically managed with goals of prolonged periods of remission. Those with severe cases of the disease may opt for surgical management, by removing part or all of colon. Researchers continue to look for reasons that may trigger the body’s immune system to attack itself. It is with great hope that researchers can soon find a cure for this debilitating disease. In hopes that one day healthcare professionals can treat the disease more efficiently and/or prevent it from occurring all together.

References