

## **Management of Ulcerative Colitis**

### **WHAT IS ULCERATIVE COLITIS?**

Ulcerative colitis (UC) is a type of inflammatory bowel disease (IBD) that results in inflammation of the inner lining of the colon and rectum. While UC can occur at any age and affects both sexes equally, the peak age at onset of symptoms is about 20 years, with a second smaller peak at about 60 years.

### **WHAT IS THE CAUSE OF ULCERATIVE COLITIS?**

The cause of UC is unknown. There is evidence that genetic factors may play a role in determining susceptibility to the disease, hence the tendency towards familial aggregation and differing incidences in different races. It is clear, however, that unknown environmental factors also interact with genetic factors to trigger the disease.

The immune system is the key mediator of the changes of ulcerative colitis. The mucosa of the colon and rectum of patients with ulcerative colitis contains active immune cells, which produce damage to the tissue. Similarly, the so-called extraintestinal symptoms associated with ulcerative colitis (e.g., arthritis, skin disorders, sclerosing cholangitis) are caused by complexes of immune cells that result in tissue damage.

### **WHAT ARE THE SYMPTOMS AND HOW TO MAKE A DIAGNOSIS OF ULCERATIVE COLITIS?**

Ulcerative colitis usually begins with inflammation of the rectum, also known as "ulcerative proctitis." The disease process then tends to extend proximally into the colon (i.e., "colitis"). The hallmark clinical signs are diarrhea and bleeding. However, the severity of symptoms vary markedly, ranging from insidious changes in bowel habits with intermittent diarrhea to rapid onset of profuse bloody diarrhea, bleeding, abdominal pain and fever.

The diagnosis of ulcerative colitis can be made by flexible sigmoidoscopy, since the rectum is virtually always inflamed. The characteristic appearance should be confirmed with biopsies and microscopic examination. Colonoscopy (or barium enema) frequently provides useful information, not only helping to assess proximal extent of disease, but also to look for skip areas, polyps, or other features which would challenge or confirm the diagnosis.

### **WHAT ARE THE COMPLICATIONS OF ULCERATIVE COLITIS?**

Common intestinal complications are; acute attack (relapse) leading to increased bleeding and frequency. Rarely this may lead to gross colonic dilatation (megacolon)

or perforation. This is a serious life threatening complication. With pan colitis & prolonged duration of disease, there is a small but definite risk of developing colon cancer.

Extra intestinal complications may lead to joint pain (arthritis), spine problem (ankylosing spondylitis) or affects skin, eye or bile duct.

### **MEDICAL TREATMENT**

The goal of the medical treatment of ulcerative colitis is to induce clinical remission while avoiding toxic medications. Medications such as 5-ASA products (e.g., Mesacol, Asacol®, Pentasa®, etc.) are often used to maintain remission. Whereas, the 5-ASA medications are safe, chronic corticosteroids and cyclosporine are not. Therefore, when clinical remissions are induced with corticosteroids and/or cyclosporine, additional medications must be added to facilitate weaning of these drugs. 5-ASA compounds or immunosuppressants such as azathioprine and 6-MP are recommended. It is probably wise to attempt weaning off azathioprine or 6-MP after 1 to 2 years of remission.

The medical treatment should be tailored to the severity of symptoms and extent of disease. Patients with proctitis and proctosigmoiditis are best treated with topical treatment such as 5-ASA enemas or suppositories. As the disease extends proximally to the left colon, oral or systemic treatment becomes necessary. The first line of treatment should be 5-ASA products. In patients with severe colitis or moderate colitis that is not responding to maximal doses of 5-ASA, corticosteroids are initiated. Most patients with severe colitis (more than six stools/day, blood in stool, fever, tachycardia, and anemia) require hospitalization with bowel rest, intravenous corticosteroids, and parenteral nutrition. Approximately 50% of patients admitted to the hospital for treatment of severe or fulminant disease will respond to bowel rest and corticosteroids and will not require urgent operation. The addition of intravenous cyclosporine results in improvement in another 20-30% of patients. Thus, about 50-80% of patients can be discharged home without urgent surgery. Despite this, the majority of patients requiring hospitalization for treatment of severe UC undergo colectomy within one year.

### **WHEN IS SURGERY NEEDED FOR ULCERATIVE COLITIS?**

It is difficult to predict which patients with ulcerative colitis will require surgery. Approximately 85% of patients with severe or fulminant disease will undergo colectomy within one year. However, this subgroup represents only 10-20% of patients.

The majority of patients with mild or moderate disease have an unpredictable course. The cumulative likelihood of requiring colectomy by 25 years is about 32%. The most common indications for elective colectomy are inability to wean off steroids over 6 to 9 months and/or a poor quality of life (e.g., fatigue, high stool frequency [ $>6$  day], anemia). The development of dysplasia or cancer is an absolute indication for colectomy.

Patients with ulcerative proctitis or proctosigmoiditis have a risk of developing colon cancer similar to that of the normal population. On the other hand, patients with ulcerative colitis proximal to the splenic flexure have an increased risk for the development of colon cancer and warrant surveillance. Subsets of patients have

different degrees of risk. The well-accepted colon cancer risk factors in patients with UC are extent of disease and duration of disease. The increased risk for cancer in patients with pancolitis begins 8 years after onset of disease, with an incidence of about 0.5-1.0%/yr thereafter. The optimal strategies for surveillance, diagnosis, and treatment of cancer in patients with UC are controversial and were recently addressed by a Consensus Panel of experts in gastrointestinal disease. This Panel posed several questions, some of which are summarized below:

1. *Is there a risk of developing colon cancer in patients with ulcerative colitis?*  
Yes. The patients at highest risk are those with pancolitis and duration of disease greater than eight years. Early age at onset of disease is an additional risk factor.
2. *Is dysplasia a reliable and valid histologic marker in the identification of patients at risk for developing colon cancer in the face of ulcerative colitis?*  
Yes and no. Patients with low-grade dysplasia, high-grade dysplasia, and especially dysplasia associated with a visible lesion or a mass (DALM) have a cancer risk that mandates elective colectomy. The problem with using dysplasia as a diagnostic test is its poor negative predictive value. That is, at least 20% of colectomy specimens from patients with UC who have developed cancer have no detectable dysplasia.
3. *Is colonoscopic surveillance of benefit in reducing cancer in patients with ulcerative colitis?* Colonoscopy should probably be performed every 1 to 2 years starting 8 years after onset of disease and then yearly 15 years after onset of disease. Multiple biopsies should be taken randomly and of any macroscopic lesions.
4. *Is there a role for prophylactic colectomy in patients with ulcerative colitis?* DALM, low-grade or high-grade dysplasia, if confirmed by a second experienced pathologist, is usually an indication for elective colectomy. Some experts continue to recommend colectomy at 10 years after diagnosis of pancolitis. After 20 years, especially in patients with primary sclerosing cholangitis, a family history of colon cancer and/or in patients with young age of onset, the case becomes strong for true "prophylactic" colectomy.

## **SURGICAL TREATMENT**

There are four surgical options in patients with UC: 1) total proctocolectomy and ileostomy; 2) total proctocolectomy with continent ileostomy (Koch pouch); 3) total proctocolectomy with ileal pouch-anal anastomosis (IPAA); 4) colectomy with ileorectal anastomosis. With the refinement of the IPAA procedure, it has become the operation of choice in virtually all patients. The Koch pouch is typically reserved for patients with previous total proctocolectomies who are very unhappy with their ileostomies. Elderly patients, advanced rectal cancer, and previous anal sphincter damage are relative contraindications for the IPAA procedure. The IPAA is not indicated in patients with Crohn's disease.

The technical aspects of the IPAA continue to evolve. Although the use of protecting ileostomies at the time of IPAA was routine for years, many centers are now performing selective one-stage IPAA with excellent long-term results in patients who are well nourished and not taking corticosteroids. Similarly, the traditional procedure includes rectal mucosectomy followed by hand-sewn IPAA. Many surgeons now

perform a "double-staple" technique without mucosectomy. In experienced hands, excellent results have been reported with either surgical technique.

### **RISKS AND EXPECTED OUTCOMES**

Mortality rates for patients undergoing elective operation for UC are less than 1%. Technical problems such as major hemorrhage and abdominal infections are infrequent. Patient satisfaction is very high in patients with UC who undergo colectomy. When the IPAA procedure is performed at centers with significant experience, at least 85-90% of patients have long-term functioning pouches. Nearly all patients would recommend the surgery to others, regardless of their operation (i.e., proctocolectomy with ileostomy or with IPAA). Quality of life, as measured with tools such as the SF-36, is normal. Stool frequency in patients after IPAA averages about 6/day. At least 85% of patients have perfect fecal continence. In general, sexual function is preserved. However, retrograde ejaculation, impotence and dyspareunia are potential complications which should be discussed with most patients. The most common long-term problem after IPAA is acute and/or chronic inflammation of the ileal pouch, or pouchitis. Symptoms include increased stool frequency, urgency, soilage, bleeding and malaise. With long-term followup, about 20-30% of patients will report at least one episode of pouchitis. The cause of pouchitis is likely multifactorial; one factor may be bacterial overgrowth of the ileal pouch. While most patients respond quickly to a short course of antibiotics (e.g., metronidazole or ciprofloxacin), some patients develop a chronic syndrome. Newer treatments with probiotics have shown promise in treating pouchitis. Other therapies for pouchitis such as topical anti-inflammatory agents, volatile fatty acids or systemic corticosteroids are not consistently efficacious. Other causes of bad outcome after IPAA are technical failures and Crohn's disease.

Other problems to be aware of after IPAA are small bowel obstruction, which occurs in about 28% of patients, and clinical dehydration, seen in about 14% of patients.

### **WHO SHOULD BE PERFORMING SURGERY FOR ULCERATIVE COLITIS?**

The qualifications of a surgeon performing any operative procedure should be based on training (education), experience, and outcomes. Colonic surgery should preferably be performed by surgeons with special knowledge, training and experience in the management of colonic disease.

This Guideline is not meant for clinical decision making. It is only meant to provide information on ulcerative colitis. Kindly consult your doctor before any decision making on diagnosis or treatment.

### **Suggested Readings**

McLeod RS, Baxter NN. Quality of life of patients with inflammatory bowel disease after surgery. *World J Surg* 1998;22:375-381.

Kohler LW, Pemberton JH, Zinmeister AR, Kelly KA. Quality of life after proctocolectomy: a comparison of Brooke ileostomy, Koch pouch and ileal-pouch anal anastomosis. *Gastroenterology* 1991;101:679.

Nivatvongs S. Ulcerative colitis. In: Gordon PH, Nivatvongs S, eds. *Principles and Practice of Surgery for the Colon, Rectum, and Anus*. 2nd ed. St. Louis: Quality Medical Publishing 1999;831-905.

Patient Education Series 1.1/ Management of ulcerative colitis

Fazio VW, O'Riordain MG, Lavery IC, Church JM, et al. Long-term functional outcome and quality of life after stapled restorative proctocolectomy. *Ann Surg* 1999;230:575-586.

The SSAT, AGA, ASLD, ASGE, et al. Consensus statement: ulcerative colitis and colon carcinoma: epidemiology, surveillance, diagnosis, and treatment. *J Gastrointest Surg* 1998;2:305-324.

If you would like to ask a medical question, please log on to  
**[www.haribhaktihospital.com](http://www.haribhaktihospital.com)**