LOS ANGELES

COLON AND RECTAL SURGICAL ASSOCIATES

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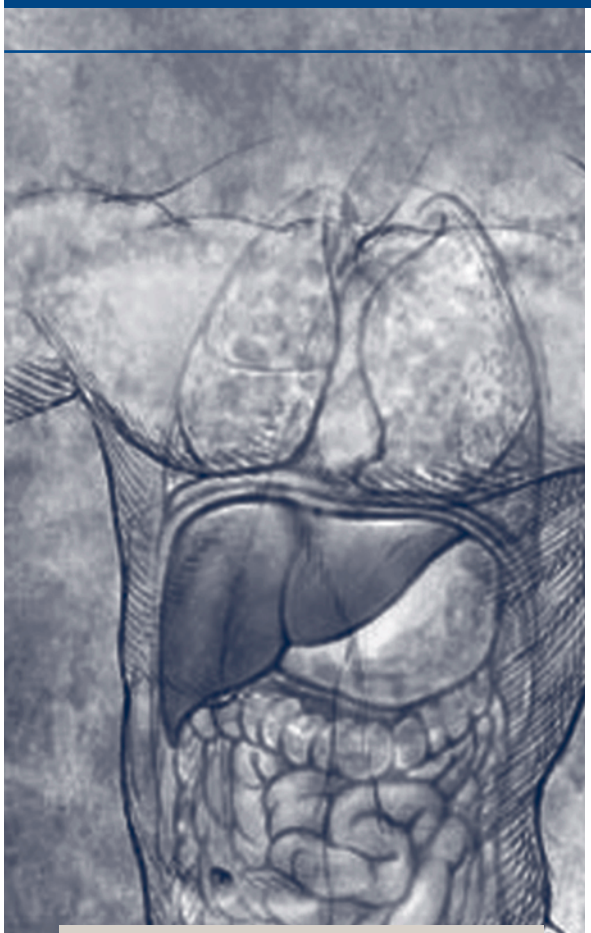

"Successful operative intervention in Ulcerative Colitis has progressed to a point where the stigma formerly associated with the surgical treatment of the disease has diminished. Patients may now look forward to a more natural life and daily functioning, while being freed from the debilitating symptoms of a debilitating disease."

Operative Intervention in Ulcerative Colitis

When Medical Treatment is Not Enough

Ulcerative colitis and Crohn's Disease are the two primary subclassifications of inflammatory bowel disease. Neither entity has a known etiology. However, abnormal immune regulation seems to play a causative role. Both Ulcerative Colitis and Crohn's disease are thought to be autoimmune in origin. Ulcerative Colitis is defined by mucosal inflammation limited to the rectum and colon. Crohn's Disease - may involve transmural inflammation of all layers of the bowel wall and can affect any portion of the gastrointestinal tract from the mouth to the anus. The primary treatments for both Ulcerative Colitis and Crohn's Disease are medical, and attempts are made to defer operative intervention for as long as possible. Medical treatments include use of salicylates such as Sulfasalazine, Asacol, Pentasa, or Rowasa. For more severe forms of the disease, corticosteroids such as Prednisone, Solucortef or Solumederol are used. Finally, immunosuppressive agents such as azothioprine, 6-mercaptopurine or cyclosporine, and anti-tumor necrosis factor antibodies such as infliximab (Remicade) are used in an attempt to control the disease and the symptoms. Each of these agents can cause serious side effects and patients taking any form of medical therapy for inflammatory bowel disease must have regular follow-up and examinations. When these agents fail to control the disease process, operative intervention takes a central role.

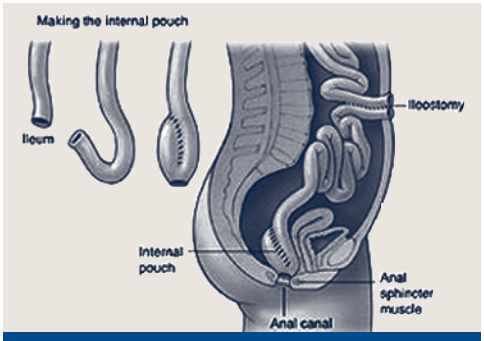

Fig.1 Ileal pouch-anal anastomosis with temporary ileostomy.

WHEN SURGICAL INTERVENTION BECOMES NECESSARY

Operative intervention is generally reserved for symptomatic disease refractory to medical therapy, emergency situations such as toxic megacolon, intestinal perforation or uncontrolled hemorrhage. During routine surveillance colonoscopic examinations, biopsies are taken from numerous anatomic locations in the colon, and terminal ileum. In cases where the biopsies show the presence of dysplasia or malignancy, surgical intervention becomes the primary mode of treatment.

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As Ulcerative Colitis is a mucosal disease limited to the rectum and colon, operative removal can be curative. The colon and rectum may be surgically removed with essentially no significant physiologic or metabolic consequences. This fact however does not make surgical intervention a first line treatment given the potential risks associated with any operative procedure. Additionally, there are aesthetic and psychological ramifications involved with the surgical removal of the colon or rectum. Nevertheless, surgery is a viable and curative option in patients who have failed medical management.

THE SURGICAL ARMAMENTARIUM

Total Proctocolectomy and End Ileostomy

There are four surgical options in the treatment of Ulcerative Colitis. The first and oldest intervention involves performing a total proctocolectomy with formation of a permanent end ileostomy. In these individuals, the entire colon, rectum, and anus are removed and a permanent ileostomy is created, allowing evacuation of stool into an ostomy appliance worn on the abdomen. This is considered to be a curative intervention. However, it involves the creation of a permanent stoma, and many patients find this reality objectionable. Total proctocolectomy is an excellent option in individuals who are not concerned with having a per ano evacuation or in those patients with an abnormal or weak anal sphincter musculature.

The Koch Pouch

In an attempt to enable patients to avoid having to wear an external appliance, a total proctocolectomy with formation of a continent ileostomy, or Koch Pouch may be performed. This involves the removal of the colon, rectum and anus and formation of an internal pouch created from the small intestine, The pouch is created from a segment of the terminal ileum and resides in the abdominal cavity. A small nipple acts as a valve and protrudes above the skin level. It is usually covered by a bandage. The pouch is intubated and drained on a convenient and regular basis, thus freeing the patient from the necessity of having to wear an ostomy bag. This procedure is mostly of historic interest given the popularity of newer procedures which provide the same advantages, coupled with a more normal evacuation. Furthermore, the valve mechanism associated with the Koch pouch is notorious for slippage and the need for multiple surgical revisions.

Total Colectomy with an Ileorectal Anastomosis

The third option in dealing with refractory colitis is a total colectomy with an ileorectal anastomosis. This operation may be used in patients with a relatively normal rectal mucosa. The entire colon is removed and the terminal ileum is anastomosed directly to the remaining rectum. In this procedure, the surgeon attempts to simply restore intestinal continuity after removing the colon. The primary advantage of this approach is that the patient retains the rectum and the its storage function. Ideally, this leads to a more natural return to the activities of daily living. However, there are several drawbacks associated with the retention of the rectum. The remaining rectum may or may not function in a normal fashion. The patient may experience a sense of fecal urgency and continue to have frequent bowel movements. Additionally, patients may need to continue with some form of medical therapy.

Most importantly, the retained rectum is subject to activating quiescent rectal disease with its attendant symptoms, or developing new disease. The rectum remains at an increased risk for the development of rectal carcinoma. These patients will continue to need lifelong surveillance with sigmoidoscopy and the possible need for future operative treatment should symptoms develop or should dysplasia or carcinoma be discovered. This procedure is occasionally offered to elderly patients without rectal disease, who refuse to have an ileostomy.

The Most common surgical choice: Total Proctocolectomy and Ileal Pouch-Anal Anastomosis

Finally, the fourth, and preferred surgical option favored by most colorectal surgeons is a total proctocolectomy with the creation of an ileal pouch-anal anastomosis. This intervention removes the entire colon as well as the entire rectum. A pouch reservoir is created using the patients terminal ileum *(figure 1)*. A *temporary* ileostomy is usually created to allow for safer healing of the ileal pouch-anal anastomosis. The goal in this operative strategy is to restore natural intestinal continuity with the maintenance of fecal continence. While bowel movements may occur slightly more frequently when compared with the normal unoperated population, this operation provides for the removal of all diseased mucosa while maintaining the closest-to-natural form of evacuation, without the need for a permanent ostomy. Even with the potential for symptomatic pouch related complications such as pouchitis, this surgical option is chosen by the majority of surgeons and patients. Typically, no further colitis related medications are necessary.

A MORE NORMAL LIFE

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