Ulcerative colitis indications and timing for surgery

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Surgery continues to have a major role in the management of ulcerative colitis because it may save the patient’s life, eliminate the long-term risk of cancer, and most important, abolish the disease. Treatment of ulcerative colitis still remains the challenge despite growing knowledge about the disease, advances in medical treatment and surgical techniques. Indications and optimal timing for surgery are the mainstays of good outcome and are as important as the quality of medical therapy and surgery. Ulcerative colitis is a complex disease where medical and surgical treatment frequently overlap and clinical decision making should be in hands of well trained and experienced team consisting of surgeon, gastroenterologist, radiologist and pathologist. Recently developed drugs, with high potential in the treatment of severe attacks of ulcerative colitis brought some changes in therapy and indications for surgical treatment. Although as many as half of patients with inflammatory bowel disease require at least one surgical procedure to address complications derived from their disease, the decision in favor of a surgical approach and its timing is rarely an easy one.

Key words: ulcerative colitis, medical therapy, surgery

INTRODUCTION

Surgery continues to have a major role in the management of ulcerative colitis because it may save the patient’s life, eliminate the long-term risk of cancer, and most important, abolish the disease. Treatment of ulcerative colitis still remains the challenge despite growing knowledge about the disease, advances in medical treatment and surgical techniques. Indications and optimal timing for surgery are the mainstays of good outcome and are as important as the quality of medical therapy and surgery. Ulcerative colitis is a complex disease where medical and surgical treatment frequently overlap and clinical decision making should be in hands of well trained and experienced team consisting of surgeon, gastroenterologist, radiologist and pathologist. Recently developed drugs, with high potential in the treatment of severe attacks of ulcerative colitis brought some changes in therapy and indications for surgical treatment.

Main indications for surgical treatment of ulcerative colitis are failure of medical therapy and acute or chronic complications of the disease. The indications for surgical treatment can be grouped into those that are "easy" because there is no alternative treatment, those that are "unavoidable" but the decision is much tougher especially regarding timing and the type of the procedure, and those that may be "debatable" and hence are most difficult to recommend.

Massive hemorrhage, perforation and cancer complicating ulcerative colitis are "easy" indications for surgical treatment because there is no alternative. Toxic colitis and extraintestinal complications are "unavoidable" or "probable" indications because surgery is required if there is no improvement on aggressive medical treatment as a first line therapy. In this circumstances there is a difficulty of precisely defining the right time to intervene surgically. Dysplasia and cancer risk and medical intractability are "debatable" indications, requiring interpretation. The decision to operate is the most difficult in these conditions.

Failure of medical therapy to control the symptoms of chronic, intractable disease is the most common indication for all operations in ulcerative colitis. In general, the
response to medical treatment is good, with a success rate ranging from 87 to 92% for moderate to mild disease but results are less favorable for severe disease. Despite good results of medical therapy, the most common indication for surgical treatment in chronic ulcerative colitis is failure of medical treatment defined as persistence of symptoms despite of therapy, recurrence of symptoms, occurrence of steroids-induced complications, poor nutrition and failure to grow in children. Failure of medical therapy comprises as many as 75% of patients operated due to ulcerative colitis in large series. There is no controversy that the failure of medical therapy is a clear indication for surgical treatment but the dilemma is at what point of the disease can we say that medical therapy has failed. That point is a highly individualized matter for each patient. It is premature to abandon medical therapy as having failed before it has been optimally applied, including the judicious use of immunosuppressive drugs for both inducing and maintaining remission. Many factors such as personal, familial, economic, logistical and psychosocial should be analyzed together with the patient and the proper decision made with focus on the best interest of the patient.

Acute complications of the disease as indications for surgical treatment include fulminant colitis, toxic megacolon, perforation and hemorrhage.

Fulminant colitis occurs in approximately 10% of patients. The diagnosis can be established according to the traditional Truelove and Witts criteria or by much simplified predictor of the likely need for surgery proposed by Travis. Initial classical management is aggressive medical treatment with intravenous steroids. The response rate is near 60%, but failure to improve within 48 hours or continued deterioration necessitates surgical intervention. Mortality rates were high in the past but have now fallen to less than 3% due to aggressive medical treatment in combination with well-timed surgery. Regimen of intravenous cyclosporine in cases unresponsive to iv. Steroids is an alternative treatment together with other supportive measures. Initial response rates up to 80% were achieved with such therapy. If there is no substantial improvement or deterioration at any earlier point in the course surgical treatment is mandatory. More than 80% of patients with acute severe colitis can be spared colectomy with aggressive medical therapy including i.v. Cyclosporin. Recent studies showed promising effect of Infliximab with 77% clinical response rate, and no significant adverse effects but Infliximab can still not be recommended as standard therapy for ulcerative colitis because of limited experience. Further investigations are needed in this field.

Toxic megacolon occurs in less than 6% of hospitalized patients with ulcerative colitis, sometimes as the initial manifestation of the disease. Toxic megacolon is often triggered by the administration of narcotic, antidiarrheal, anticholinergic and antidepressant medications which are strongly contraindicated in patients with acute fulminant colitis. These patients are usually in critical condition and early surgical treatment is mandatory in most cases. If aggressive medical treatment shows no substantial improvement within 24 hours, urgent colectomy is indicated. Aggressive medical treatment should be considered only as a preparation for surgery in most cases.

High mortality rates of urgent colectomy (20-40% in cases with toxic perforation of colon) and relatively poor prognosis for patients who respond to medical treatment (30% risk of second attack of fulminant colitis or toxic megacolon) favor urgent surgical treatment. However, some clinicians favor conservative treatment, mainly with intravenous cyclosporine and claim that medical treatment can safely be continued for at least 7 days as long as there is evidence of clinical improvement. If there is no improvement, elective surgery is far preferable to emergent surgery (mortality rates 5% versus 30%). All patients with toxic megacolon should be closely monitored by a team of experienced gastroenterologist, surgeon and radiologist. Adequate timing for surgical treatment is of paramount importance in such cases and can not be overemphasized.

Perforation is a rare complication of ulcerative colitis in the absence of toxic megacolon. The highest risk is at the time of first attack. Perforation can be free and walled of and carries high mortality rate up to 50%. If perforation occurs due the course of the disease, it is clear but "late" indication for urgent surgical treatment. The mortality rate associated with perforation is high and can only be decreased by prompt surgical treatment. It should be noted that sometimes perforation can not be easily recognized especially in patients receiving steroids. Only early recognition of this complication can save patient's life, necessitating multidisciplinary treatment (close cooperation between gastroenterologist and surgeon). Only prevention of this complication by proper (early) timing of surgical treatment can reduce high mortality rates.

Massive hemorrhage in ulcerative colitis is a rare complication, and occurs in less than 4% of cases. It accounts for 10% of emergency colectomies and is often associated with toxic megacolon. Massive hemorrhage in ulcerative colitis requiring transfusions is clear indication for surgical treatment and any stubborn insisting in conservative treatment could jeopardize patient’s life.

Chronic complications include obstruction, risk (or presence) of carcinoma, growth retardation in children and extraintestinal manifestations of ulcerative colitis.

Obstruction in a patient with long history of ulcerative colitis is almost always a result of malignancy. Sometimes, complete obstruction occurs and the patient presents as an emergent case. In both cases colectomy should be performed. Should the disease ever progress to this stage in medically treated patient?

The relation between long-standing ulcerative colitis and cancer is well documented although the risk of malignancy was overestimated in the past. The risk of malignant transformation is not high (0.3-1.0%) but remains a constant threat especially after 10 years duration of the disease, when the disease involves entire colon and when colitis had its onset in childhood. The severity of the colitis does not correlate with cancer risk. When cancer occurs it is usually multicentric and poorly differentiated. Cancer risk in the presence of low-grade dysplasia is 10 to
20%, rising up to 40% in the presence of high-grade dysplasia. When dysplasia is associated with a mass (DALM) the risk of cancer rises up to 60%.16,17,18 The term dysplasia is a complicated concept and not always accepted the same way. Agreement in the evaluation of dysplasia among experienced pathologists could reach only 42 to 65%.19,20

Apart from controversies in evaluation of dysplasia in ulcerative colitis, there are more controversies concerning treatment. In case of low-grade dysplasia (LGD) some recommend surgical treatment 17,21 but some clinicians believe that increased surveillance should be initiated.22,23 If LGD is found on single location – annual colonoscopy is suggested and if multifocal LGD is found – new examination in 6 months is indicated (if positive – surgery is warranted.

In cases with high grade dysplasia (HGD) and DALM – surgical treatment is mandatory. Pedunculated adenomas in dysplasia free mucosa should be managed with snare polypectomy while finding of sessile polyps should be an indication for surgery.

Extraintestinal manifestations are frequent and almost 30% of patients will exhibit at least one manifestation during the course of the ulcerative colitis. Vascular, cutaneous and joint manifestations usually regress after proctocolectomy but operation does not affect the course of primary sclerosing cholangitis which may progress to cirrhosis and cholangiocarcinoma.25 Indications for surgical treatment and timing of surgery in this group are not clearly defined.

Regardless of defined indications for surgical treatment of ulcerative colitis, other factors such as personal or work-related commitments may also influence indications and timing of the surgical treatment. Gastroenterologist and surgeon, assisted by the radiologist and pathologist, should act as a team in the decision of the optimal treatment plan for the patient. It is of paramount importance to emphasize the fact that surgery is not a last resort; it is a very effective treatment when properly indicated. Treatment priorities must focus less on saving colons than on saving lives.

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