Restorative proctocolectomy was performed for urgent indications in three stages and for elective purposes in two stages for ulcerative colitis (UC). Since the three-step procedure makes enormous demands on the patients, there was an attempt to introduce a primary pouch anal anastomosis for urgent indications in selected cases.

The aim of the study was to compare early complications in patients after having undergone Hartmann’s procedure with those that had restorative proctocolectomy for urgent indications in UC, based on the authors’ experience and the literature.

Material and methods. The medical records of 211 patients who underwent an operation for UC in this clinic from 1996 through 2005 were retrospectively evaluated. There were 107 (51%) males and 104 (49%) females in this study; the mean age was 38 years. The median duration of disease was 3 years.

Results. An operation was performed in 77 (36%) patients for urgent indications. Finally, the study was entered by 60 (28%) patients after exclusion of the high-risk patients. All the patients were divided into two groups. The first group consisted of 25 (42%) patients who underwent the Hartmann’s procedure, whereas the second group comprised 35 (58%) patients who had the pouch operation. There was no postoperative mortality in the surveyed group. Respiratory failure occurred in 6 (24%) patients after Hartmann’s operation and in 5 (14%) patients who underwent the pouch procedure. Intra-abdominal sepsis developed in 3 (12%) patients after colectomy and in 5 (14%) after pouch-anal anastomosis. Wound dehiscence was present in 2 (8%) patients undergoing Hartmann’s operation and in 3 (9%) after the pouch procedure. Bowel obstruction occurred in 1 patient after the former operation and in 2 (6%) patients after the latter one. Wound infection was diagnosed in 5 (20%) patients after colectomy and in 7 (20%) after proctocolectomy. Differences between the investigated groups of patients were not statistically significant.

Results. The three-stage procedure with Hartmann’s colectomy is the treatment of choice for urgent indications in UC.

Primary restorative proctocolectomy is performed for urgent indications in acute UC in selected group of patients without septic signs due to a similar morbidity as the group of patients who had Hartmann’s procedure.

Key words: ulcerative colitis, urgent indications, restorative proctocolectomy, early complications

Restorative proctocolectomy (IPAA) has become the procedure of choice for the treatment of extensive, intractable and complicated ulcerative colitis (UC). Radical treatment can be achieved and it provides the patients with a good quality of life due to preserving anal sphincters and therefore faecal continence (1-4). Ulcerative colitis can be treated surgically for either urgent or elective indications. Infrequent massive lower tract haemorrhage, colon perforation, toxic megacolon and severe, acute attacks unresponsive to one week of intense medical treatment belong to the former group of indications. Restorative proctocolectomy used to be performed in emergency cases of UC in three stages, and for elective purposes in two stages. That three-step treatment started with Hartmann’s colectomy whereas the two-staged
procedure consisted of primary IPAA with diverting loop ileostomy (4-10). Since the three-staged procedure makes enormous demands on the patient, adds another laparotomy to the management and prolongs the treatment time, there was an attempt to introduce primary pouch anal anastomosis for urgent indications in selected cases.

The aim of the study was to compare early complications in patients after having undergone Hartmann’s procedure with those that had restorative proctocolectomy for urgent indications in UC, based on the authors’ experience and the literature.

MATERIAL AND METHODS

Medical records of 211 patients who underwent an operation for UC in the Department of General, Gastrointestinal and Endocrinologic Surgery in Poznań from 1996 through 2005 were retrospectively evaluated. Patients were included in this study in which a diagnosis of UC was established using the clinical, radiological, endoscopic and histopathological criteria. The extent of the large bowel inflammation was determined on the basis of colonoscopy and/or barium enema. Degree of illness was defined according to the modified Truelove and Witts’ disease severity index, taking into account clinical parameters on admission to hospital and before operation (9, 10). As a result, the patients were divided into 2 groups – those operated on urgently in emergent cases of UC in the first group and those undergoing elective procedures in remission in the second group. Finally, the study entered 53 patients who were operated on for acute UC unresponsive to intense medical treatment and 7 patients with incipient toxic megacolon without signs of systemic inflammatory response syndrome. The number of bowel movements with blood exceeded 6, body temperature hovered between 37°C and 38°C, blood pressure was over 100 mm Hg and pulse rate fluctuated from 90 through 110 beats per minute. Anemia was corrected with transfusions to the level of 10 g/dl. All the patients included in the study were given steroids before the operation. The average dose of methylprednisolone did not exceed 16 mg the day of the operation for the 40 patients operated on for exacerbation of UC; this dose is even after aggressive tapering started just after admission to the hospital. The dose of hydrocortisone the day of operation was on average 200 mg in the remaining patients. Patients with massive lower tract haemorrhage, diffuse faecal peritonitis and those in septic shock were excluded from this study. Medical records were evaluated with regard to sex, age and number of patients, duration of disease, indications for surgery, surgical methods and early postoperative complications. The results were evaluated statistically. Complication rates were compared with the test for differences between two proportions; differences accepted as non-significant were those with p>0.05.

RESULTS

There were 107 (51%) males and 104 (49%) females who underwent an operation. The mean age was 38 years (range: 14-72). Median duration of disease until the primary operation was 3 years (range: 4 weeks-20 years). An operation was performed in 77 (36%) patients for urgent indications. Finally, the study was entered by 60 (28%) patients with severe or moderate attacks of UC after exclusion of the high-risk patients. All the patients were divided into two groups according to the operation method. The first group consisted of 25 (42%) patients who underwent the Hartmann’s procedure, whereas the second group comprised 35 (58%) patients after the pouch procedure. Primary acute attack of UC unresponsive to medical treatment was an indication for surgery in 7 patients; 6 patients underwent an operation due to a continuous form of acute UC and 40 (57%) patients were referred to surgery because of exacerbation of a chronic form of UC. Hartmann’s operation was performed in 4 and IPAA in 3 patients due to incipient toxic megacolon. There was no postoperative mortality in the surveyed group. Respiratory failure occurred in 6 (24%) patients after Hartmann’s operation and 5 (14%) patients who underwent the pouch procedure; it was the most frequent and severe general complication. Intra-abdominal sepsis was the most serious surgical complication in the surveyed group of patients. That complication developed in 3 (12%) patients after Hartmann’s colectomy as a minor pelvis abscess in 2 patients or multiple intra-abdominal abscesses in 1 patient. Similar infection occurred in 5 (14%) patients after pouch-anal anastomosis as a minor pelvis abscess in 3 patients, diffuse peritonitis in 1 patient, and
multiple intra-abdominal abscesses also in 1 patient. Almost all the patients with intra-abdominal sepsis required surgery with except for 1 patient after Hartmann’s procedure and 2 patients after IPAA who developed minor pelvis abscesses and were treated with percutaneous drainage. Wound dehiscence was present in 2 (8%) patients undergoing Hartmann’s operation and in 3 (9%) patients after the pouch procedure. Bowel obstruction treated with medical measures occurred in 1 patient after the former operation and in 2 (6%) patients after the latter one. Wound infection the most frequent surgical complication was diagnosed in 5 (20%) patients after colectomy and in 7 (20%) patients after proctocolectomy. Differences between the investigated groups of patients were not statistically significant (tab. 1).

**DISCUSSION**

A three-step treatment consisting of Hartmann’s colectomy at first stage, resection of the rectum, restoration of digestive tract continuity with ileal pouch anal anastomosis and diverting Hulten’s loop-ileostomy at second step, and ileostomy closure at third stage remains unquestionably the management of choice for treatment of acute UC with the most urgent indications. Primary Hartmann’s colectomy is indicated in severely ill patients due to massive lower tract haemorrhage, diffuse faecal peritonitis encountered during laparotomy from colon perforation, and fragility due to inflamed tissues and severe inflammatory infiltration within the rectum and mesorectum.

Similar management is also indicated for patients who developed toxic megacolon and those in septic shock with systemic inflammatory response syndrome (4-8). However, there is a significant group of patients operated on for acute UC who could undergo primary restorative proctocolectomy with loop-ileostomy, that is, a two-step treatment, who might profit from such management and thus avoid another large abdominal operation and potential serious complications. These are patients in the acute phase of UC without signs of systemic inflammatory response syndrome. The investigated group of patients who matched the aforementioned criterions underwent either Hartmann’s colectomy or primary restorative proctocolectomy. The rate of complication after Hartmann’s operation occurring in this study did not exceed the frequency of complications reported by others (11-18). What is more interesting is that the rates of early complications between the investigated groups of patients were not statistically significant.

Intra-abdominal sepsis was the most serious surgical complication which occurred in the investigated group of patients and the rate of it was similar to that reported by other authors. Sepsis appeared as either circumscribed peritonitis in the form of a minor pelvis abscess, multiple intra-abdominal abscesses, or diffuse peritonitis. All the complications were cured, though there was need for another surgical intervention. Abdominal infection occurred due to anastomosis dehiscence despite performing ileostomy. Other surgeons advise drainage of both Hartmann’s and ileal pouches to remove residual blood and mucous which could be the source of infection and cause of dehiscence of an anastomosis. However, serious general conditions of the patients suffering from acute UC

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<th>Table 1. Early complications after surgery for emergency cases of ulcerative colitis with regard to operation method</th>
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<td><strong>Complication</strong></td>
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is the major cause of unsatisfactory results of treatment. Therefore, primary restorative proctocolectomy is accepted only in a selected group of patients in whom most preoperative abnormalities were corrected adequately. That management consists of anemia and water-electrolyte abnormality correction, early introduction of intense parenteral nutrition and its continuation despite restoration of enteral nutrition after an operation to correct malnutrition, and aggressive steroid tapering within a few days after the operation, keeping in mind the risk of adrenal insufficiency. Hydrocortisone in a dose exceeding 200 mg before an operation and leukocytosis over 10 x 10⁹/L are independent risk factors of anastomosis dehiscence according to some authors (19, 20, 21). Finally, successful treatment of chronic, extensive and intractable UC is cause for referral to surgery for patients in remission, rather than treatment of those in the acute phase of the disease (21).

CONCLUSIONS

1. Three-stage procedure with Hartmann’s colectomy for urgent indications in UC is the management of choice.

2. Primary restorative proctocolectomy is allowed to be performed for urgent indications in acute UC in a selected group of patients without septic signs because of its similar morbidity as the group of patients after Hartmann’s procedure.

REFERENCES