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Modern Methods of Diagnosis and Treatment Ofcrohn's Disease

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Summary- A study was conducted involving 94 patients diagnosed with Crohn's Disease (CD). The complications of CD included colonic hemorrhage, strictures of the small and large intestines, colonic pseudopolyposis, interintestinal and interorgan fistulas, and rectal fistulas. For complicated cases of CD, after a short-term course of conservative treatment and appropriate preparation considering co-existing diseases, 61 (64.8%) patients underwent radical surgical interventions such as colectomy or resection of the affected bowel segment. The choice of surgical method and volume depended on the extent of bowel involvement and the type of CD complications.

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I. Introduction

Crohn's disease (CD) is characterized by a chronic, slowly progressing course that can localize to any part of the gastrointestinal (GI) tract. It predominantly affects young individuals and is most commonly observed in the terminal section of the ileum (terminal ileitis) and the proximal colon. Despitesignificant research, the exact etiology and pathogenesis of CD remain unclear.

The clinical manifestations of CD vary widely due to its segmental GI tract involvement and inflammation migration potential. The severity and activity of the disease can be challenging to assess due to its diverse forms, broad spectrum of symptoms, and complications. The inflammatory process often extends beyond the mucosa, affecting deeper layers of the intestinal wall and even the serous membrane, leading to complications such as fistulas, strictures, and abscesses.

CD is primarily described as a nonspecific inflammatory disease of the digestive tract, with granulomatous changes in the intestinal wall, ulcerations of the mucosa, fistula formation, and luminal stenosis. These pathologies are caused by transmural inflammation, which involves the serous covering of the intestines, resulting in adhesions and connections between adjacent organs. Transmural lesions and significant tissue infiltration can lead to intestinal obstruction. CD is also associated with severe complications and extraintestinal manifestations, which influence its prognosis.

The disease is often diagnosed during emergency surgeries performed for acute abdominal conditions, revealing segmental lesions of the small and large intestines. Preoperative diagnosis of CD is much rarer. Prognostic information about CD is limited and varied due to the wide range of clinical manifestations and complications. Some studies suggest a poor prognosis due to severe complications requiring surgical treatment, while others report favorable outcomes with early and targeted treatments before the acute phase transitions to chronic.

Currently, conservative treatment is increasingly prioritized whenever possible, reserving surgery for severe complications like intestinal strictures or tissue penetration into surrounding structures.

II. Objectives

The study aimed to develop optimal methods for diagnosing and treating Crohn's disease.

III. Materials and Methods

A total of 94 patients hospitalized at the Republican Scientific Center of Coloproctology in Uzbekistan between 2001 and 2023 were studied. The cohort included 66 men (70.2%) and 28 women (29.8%), with ages ranging from 30 to 74 years. Patients underwent diagnostic evaluations, including rectosigmoidoscopy, colonoscopy, barium passage studies, computed tomography (CT), and ultrasound (US) of the small and large intestines.

The comprehensive diagnostic process revealed:

14 patients (15.0%) had small intestine involvement.

65 patients (69.1%) had large intestine involvement.

10 patients (10.6%) had both small and large intestine involvement (ileocolitis).

Uncomplicated CD was observed in 16 patients (17.0%), while 78 patients (83.0%) had complicated CD.

IV. Results and Discussion

All patients underwent a course of conservative treatment. For 61 patients (55.9%) with various complications of CD, short-term conservative treatment aimed at controlling acute symptoms was followed by surgical intervention. The indications for surgery included failure of conservative treatment and the presence of complications such as:

Bleeding: 18 cases (28.1%)

Large bowel strictures: 14 cases (21.8%)

Small bowel strictures: 7 cases (10.9%)

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Rectal fistulas: 6 cases (9.4%)

Colonic pseudopolyposis: 6 cases (9.4%)

Interintestinal fistulas: 3 cases (4.8%)

Toxic megacolon: 2 cases (3.1%)

Multiple complications: 8 cases (12.5%)

Types of Surgeries Performed (Total: 61 Patients):

1. Total colectomy with ileorectal anastomosis: 18 patients (29.5%)
2. Resection of the ileocecal junction with ileoascendoanastomosis: 9 patients (14.7%)
3. Small bowel resection with entero-enteral anastomosis: 13 patients (21.3%)
4. Right-sided hemicolectomy with ileotransverso-anastomosis (end-to-side): 7 patients (11.5%)
5. Total colectomy with end ileostomy: 7 patients (11.5%)
6. Subtotal colectomy with ascendoanal anastomosis: 7 patients (11.5%)

Postoperative Complications:

Postoperative complications were observed in 4 cases (6.4%).

1. Anastomotic failure leading to fecal peritonitis: 1 case (1.6%)
2. Profuse bleeding from a duodenal ulcer with disseminated intravascular coagulation (DIC): 1 case (1.6%)
3. Necrosis of the small intestine with multiple perforations and peritonitis due to mesenteric thrombosis: 1 case (1.6%)
4. Perforation of the small intestine resulting in fecal peritonitis: 1 case (1.6%)

All these cases resulted in fatalities.

1. *Resection of the ileocecal junction with ileoascendoanastomosis:* 9 patients (14.7%).
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V. Long-Term Outcomes

The long-term outcomes of treatment were studied over a period ranging from 1 to 5 years through personal examinations and instrumental diagnostic methods. These evaluations demonstrated normal functional activity of the intestines in operated patients. Among non-operated patients, improvements in the functions of the small and large intestines were noted, and their general condition was considered satisfactory.

The conducted studies confirmed that complications of Crohn's disease include colonic hemorrhage, strictures of the small and large intestines, colonic pseudopolyposis, interintestinal and interorgan fistulas, and rectal fistulas. For patients with complicated forms of Crohn's disease, after a short-term course of conservative treatment, considering coexisting conditions and with appropriate preparation, radical surgical treatment was performed in 61 cases (55.9%). The method and extent of surgery were determined by the level of intestinal involvement and the type of complications.

VI. Conclusions

1. *Complication Overlap:* In 12.5% of patients with Crohn's disease (CD), multiple complications occur simultaneously.
2. *Indications for Surgery:* The presence of multiple complications in Crohn's disease is an absolute indication for surgical intervention.
3. *Surgical Decision-making:*

   The urgency of the operation.

   The severity of the patient's condition.

   The presence or absence of complications.

The choice of surgical method and the extent of the intervention depend on the level of intestinal involvement and the specific type of complications present.

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