Timing of Colonoscopy for Hemodynamically Stable Patients With Acute Lower Gastrointestinal Bleeding

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Introduction: The detection rate of the etiology of the lower gastrointestinal system (GIS) hemorrhage has been low, although urgent colonoscopy has been performed. Even if the etiology has been specified, the possibility of rebleeding is uncertain. Furthermore, adequate bowel cleansing required for colonoscopy cannot be achieved in emergency situations, so the procedure may fail. The aim of this study is to compare the etiological diagnoses of patients with lower GIS bleeding after bowel preparation at their first hospitalization and after discharge.

Material and Method: Patients who were hemodynamically stable after upper GIS bleeding were identified and divided into 2 groups. Colonoscopy was performed in the first group of patients at their first hospitalization. The second group of patients was called again for colonoscopy within 2 weeks after discharge. Patients were classified according to their age, gender, bleeding etiology, whether complete colonoscopy procedure was possible (The cecum was intubated, and the bowel cleansing was sufficient to evaluate the intestinal mucosa), and whether the colonoscopic intervention was performed.

Results: The rate of patients who are hemodynamically stable and require emergency intervention at their first hospitalization is 5%. The colonoscopy repeat rate is 70% for the first hospitalization group, and the patients with no findings despite the second colonoscopy at a rate of 50% are re-evaluated electively.

Discussion: Our study suggests that colonoscopy should be performed in elective conditions after a complete bowel cleansing in hemodynamically stable patients.

Key Words: Lower gastrointestinal bleeding, colonoscopy, readmission

(*Surg Laparosc Endosc Percutan Tech* 2023;33:76–78)

Gastrointestinal system (GIS) bleeding has been 1 of the important mortality factors among emergency applications. Hemodynamically unstable patients are operated on urgently after the endoscopic intervention whereas hemodynamically stable patients are followed up after their bleeding etiology is detected; meanwhile, their subsequent bleeding rates are taken into consideration.[1]

GIS bleedings are divided into 2 groups depending on their location being over or under the treitz ligament. In upper GIS bleedings, etiology is specified by endoscopic interventions; then, treatment and follow-up plans are designed accordingly.[2] In addition, in more experienced centers, the rate of controlling hemorrhages with endoscopic interventions is very high.[3]

Received for publication September 23, 2022; accepted November 12, 2022.

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The authors declare no conflicts of interest.

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Although emergency colonoscopy was performed in the patients with lower GIS bleeding, the detection rate of etiology of hemorrhage was low. Even if the etiology has been specified, the possibility of rebleeding is uncertain. Furthermore, adequate bowel cleansing required for the colonoscopy cannot be achieved in emergency situations, so the procedure may fail.

Controversy exists regarding the timing of colonoscopy in hemodynamically stable patients with lower GIS bleeding. There are 2 suggested options for these conditions. The first option is to perform a colonoscopy at the first hospitalization and the second option is to perform it within a week or 2 after discharge.

The aim of this study is to compare the etiological diagnoses of the patients with lower GIS bleeding after bowel preparation at their first hospitalization and after discharge.

MATERIAL AND METHOD

The study was planned retrospectively. Patients who applied to the emergency surgery department with GIS bleeding between January 2015 and December 2020 were included in our study.

Our study on patients with GIS bleeding who applied to the emergency surgery department of İstanbul Atlas University Medicine Hospital between 2015 and 2020 is in the following section.

All patients were evaluated in terms of upper GIS bleeding and were included in our study after the upper bleeding was eliminated.

Patients who were scheduled for emergency surgery due to hemodynamic instability without any etiological condition were not included in the study.

All endoscopic applications were performed by the same staff groups in each hospital. For patients with active bleeding detected during colonoscopy, sclerotherapy, or argon was administered. Detected bleeding polyps were excised endoscopically. Patients with detected hemorrhoidal bleeding, which was considered grade III, were treated with band ligation. Clips were applied for bleeding control in patients with Dieulafoy lesion.

Hemodynamically stable patients were divided into 2 groups. Colonoscopy was performed in the first group of patients at their first hospitalization. The second group of patients was called back for colonoscopy 2 weeks after discharge from the hospital.

Patients were classified according to their age, gender, bleeding etiology, whether a complete colonoscopy procedure was possible (the cecum was intubated, and the bowel cleansing was sufficient to evaluate the intestinal mucosa), and whether the colonoscopic intervention was performed.

RESULTS

Two hundred two patients were included in the study. Ninety-three (46%) of the patients included were females, and 109 (54%) of them were males. The average age was 63.4 (19 to 93). Patients were divided into 2 groups according to the timing of the procedure. While there were 100 patients in the group that underwent colonoscopy at their first hospitalization (Group A), there were 102 patients who were followed up hemodynamically and underwent colonoscopy after discharge (Group B).

Patients who underwent colonoscopy at the first hospitalization (Group A) included 48 females and 51 males. Their average age was 65.2. Two days after their first hospitalization, 45 patients underwent colonoscopy again because their bowels were not completely cleaned. In group B, there were 45 females and 58 males. The average age of the group was 61.2. The division of patients into groups according to their demographical characteristics is shown in Table 1.

According to the etiological findings in group A, there were diverticular bleeding in 18 patients, inflammatory bowel disease in 7 patients, hemorrhoids in 9 patients, rectum cancer in 6 patients, colon cancer in 1 patient, vascular dysplasia in 2 patients, anal fissure in 7 patients, nonspecific colitis in 4 patients, and Dieulafoy lesion in 1 patient. During the colonoscopy performed in emergency circumstances, no pathology was detected in 45 patients.

In terms of Group B patients, there were diverticular bleeding in 14 patients, inflammatory bowel disease in 8 patients, hemorrhoids in 3 patients, rectum cancer in 4 patients, colon cancer in 7 patients, vascular dysplasia in 6 patients, anal fissure in 1 patient, nonspecific colitis in 6 patients, and polyp lesion in 3 patients, whereas no specific pathology was found to explain the bleeding in 51 patients (Table 2).

Forty-five patients who underwent colonoscopy without any pathologic findings in their first hospitalization were called for a second evaluation after discharge. Six patients were diagnosed with rectum cancer and recalled for the detection of synchronous lesions.

While no pathology was found in 35 of 45 patients who had no previous pathology findings and were re-evaluated by a second colonoscopy, the diverticular disease was found in 7, polyp in the right colon in 2, and transverse colon tumor in 1 of the patients. In patients who were diagnosed with rectum cancer and underwent colonoscopy once again for scanning synchronous lesions, no additional pathology was detected.

DISCUSSION

Gastrointestinal system (GIS) bleeding has been a quite frequently encountered phenomenon that has to be intervened urgently in emergency surgery. Algorithm and treatment criteria for upper GIS bleedings can be determined, but in lower GIS bleedings, there is no consensus on etiological diagnosis and the treatment processes.[4]

The timing of colonoscopy decisions in patients admitted to the hospital with lower GIS bleeding is controversial. To perform a complete colonoscopy, bowel preparation must be done before the procedure, and some authors have stated that the cecum should be intubated for a sufficient colonoscopy. The other idea is that the presence of a possible lesion that can explain the detected bleeding is sufficient for the etiology.[5–7]

Colonoscopy was performed immediately after mechanical bowel cleansing in hemodynamically stable patients. However, as observed in our study, this procedure may not be performed as a complete colonoscopic evaluation, thus leading to a longer hospital stay with several concurrent procedures and, as a result, more resource wastage.

Another problem is also detected in etiological conditions such as diverticulitis, tumors, and inflammatory bowel diseases, so the second procedure is planned for interventional procedures, such as biopsy, because there is a belief that bleeding will occur again in such procedures.

Alongside these arguments that support colonoscopy in elective conditions, there are arguments suggesting that the diagnosis of the patient at the first hospitalization is effective in preventing concurrent bleeding and gives a better chance of intervention to the possible lesion.[8,9] Thus, conditions that can be controlled by band ligation, such as hemorrhoidal bleeding, can be solved or delays in diagnosis and treatment in patients with tumors are eliminated.[10] However, as seen in our study, the rate of patients who are hemodynamically stable and require emergency intervention at their first hospitalization is 5%. Colonoscopy planned for the first hospitalization of the patients is repeated at a rate of 70%, and patients who do not have symptoms despite the second colonoscopy at a rate of 50% are re-evaluated electively.

Although diagnosis is possible at the first hospitalization, as in rectum cancers, colonoscopy is repeated in elective conditions so that a synchronous tumor or polyp is not missed.

As a result, our study suggests that colonoscopy should be performed in hemodynamically stable patients under elective conditions after a complete bowel cleansing. However, since possible simultaneous bleeding cannot be predicted, it is essential that the elective procedure be performed in a short time.

TABLE 1. Demographic Data

	First hospitalization	After discharge
Female/Male	48/51	45/58
Average Age	65.2	61.6

TABLE 2. Pathology for 2 Groups

	Group A, n (%)	Group B, n (%)
Normal	45 (45)	51 (50)
Diverticulum	18 (18)	14 (13)
IBH	7 (7)	8 (7.8)
Hemorrhoid	9 (9)	3 (2.9)
Rectum Ca	6 (6)	4 (3.9)
Colon Ca	1 (1)	7 (6.8)
Vascular dysplasia	2 (2)	6 (5.8)
Anal fissure	7 (7)	1 (0.9)
Nonspecific colitis	4 (4)	6 (5.8)
Polyp	0	3 (2.9)
Dieulafoy	1 (1)	0
Total	100	102

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