Introduction

Urgent colonoscopy is usually performed within 12 to 48 hours of hospitalization. Emergency colonoscopy, which performed in variable cause, would be available a few hospitals, because urgent colonoscopy was required rapid bowel preparation and experienced endoscopist, to be always waiting. At this time, we discuss the indication and preparation of emergency colonoscopy performed.

Lower GI bleeding

1. Introduction

Lower intestinal bleeding is defined as acute or chronic abnormal blood loss distal to the ligament of Treitz. The incidence of lower gastrointestinal bleeding is only one fifth of that of the upper gastrointestinal tract and is estimated to be 21-27 cases per 100,000 adults/year.1,2 Acute bleeding is arbitrarily defined as bleeding of <3 days’ duration resulting in instability of vital signs, anemia, and/or need for blood transfusion. Chronic bleeding is defined as slow blood loss over a period of several days or longer presenting with symptoms of occult fecal blood, intermittent melena or scant hematochezia. Occult bleeding means that the amounts of blood in the feces are too small to be seen but detectable by chemical tests.3 LGIB usually is chronic and spontaneous Bleeding stop (80%), but male gender and older patients suffer from more severe LGIB.

2. General indication of urgent colonoscopy

Urgent colonoscopy indications were classified into three categories, the most common cause was acute lower gastrointestinal bleeding. Also Urgent Colonoscopy is performed in patient with colon obstruction due to colon cancer, volvulus or Ogilvie’s syndrome. But colonoscopy should be avoided peritonitis, acute colitis and patients with acute myocardial infarction or pulmonary thrombosis history

3. Indication of urgent colonoscopy in lower GI bleeding

Because most LGIB is self-limiting, colonoscopy was performed after the bleeding has stopped and the patient adequately prepared. But urgent colonoscopy was performed continuous bleeding. Signs of hemody-
namic instability were pallor, fatigue, palpitations, chest pain, dyspnea, tachypnea, and tachycardia. Especially when standing systolic blood pressure decreased more than 10 mmHg or heart rate increased more than 10 times per minute, it means more than 15% of the effective blood loss. When hemodynamic instability sign were present, central venous catheter was inserted before a colonoscopy should be performed. Also emergency laboratory test was needed include complete blood count, electrolyte test, blood clotting and blood type tests. We needed NSAID or anti-platelet history and performed digital rectal examination to confirm the appearance of stool and anal-rectal diseases. Before starting colonoscopy, history and clinical examination should lead to a tentative diagnosis in order to plan the diagnostic procedures.

In fact, it is generally accepted that in patients with hematochezia, especially in combination with hemodynamic instability, an UGIB must be excluded, since in 12% patients with suspected acute LGB have their bleeding source proximal to the ligament of Treitz.4 If there is bleeding in nasogastric tube aspiration, not aspirated blood and bile, NASID or gastric ulcer history and massive bleeding, emergency gastroscopy should be performed. When there are not risk factors of upper gastrointestinal bleeding, colonoscopy is performed. If there are not specific findings in colonoscopy, gastroscopy may be performed. It can rapid diagnosed bleeding, endoscopic intervention and predict re-bleeding risk and site. Therefore it could reduce duration of hospitalization and cost.4,7 In addition; doctor and patients have advantages that have not to worry about colon cancer.

In patients with chronic lower gastrointestinal bleeding is the principle that selectively performed the colonoscopy after appropriate colonic preparation. But early colonoscopy could be performed in patients with acute lower gastrointestinal bleeding after hemodynamic instability correction. Some studies reported about colonoscopy without preparation,8 but it make difficult to find bleed site and increases the risk of perforation. In other studies, the detection rate of the bleeding source after bowel preparation varies between 62 and 78%, and in patients without preparation the urgent unprepared colonoscopies could identify the bleeding source in 76%. It is unclear whether unprepared colonoscopy is more effective as compared to prepared colonoscopy and not randomized controlled trials, but most endoscopists prefer prepared colonoscopy.9,10 The bowel preparation can be performed by enemas and/or polyethylene glycol solutions administered by mouth or both. PEG solution is administered 1 L every 30 to 45 minutes by orally or nasogastric tube and administered to maintain the colon preparation average of 5.5 L (range 4-14 L). Metoclopramide 10 mg intravenous administration may be helpful to improve gastric emptying and to reduce nausea.4 Narcotic analgesics administration can temporarily reduce mucosal blood flow, it make difficult to find such as angiodysplasia. Therefore it is not administrated in patients with lower gastrointestinal bleeding.

4. Other indication of urgent colonoscopy

Colorectal cancer. Complete or partial intestinal obstruction occurs in 7%–29% of patients with colon cancer.11,12 When cancer resection with end to end anastomosis performed, it have many complication such as anastomotic leakage and infection. Also, if subtotal colon resection after colonic lavage in operation room with anastomosis performed, the morbidity associated with the surgery is high. Although Primary tumor resection and temporarily colostomy with delayed anastomosis has been accepted standard treatment, it had many complication associated emergency operation, low quality of life due to colostomy and undergo secondary operation.13,14 Recently, Self-expandable metallic stents have been used successfully, colostomy for evacuation can be avoided and this technique allows staging of disease, even on an outpatient basis, and scheduling of elec-
tive surgery after optimal colonic preparation.\textsuperscript{15,16} If endoscope could not pass but stool pass is able in patients with subtotal obstruction performed standard bowel preparation. But if stool is not passing, should possibly be avoided bowel preparation.

Sigmoid volvulus. Sigmoid volvulus occurs mainly at Sigmoid-descending colon junction in the elderly. When colonic pressure rose, blood supply is blocked and eventually necrosis. Therefore endoscopic decompression should be performed immediately if there is no evidence of peritonitis. Underwent endoscopic decompression does not require special pretreatment and bowel preparation is contraindicated.

Acute colonic pseudo-obstruction (Ogilvie’s syndrome). Most of acute colonic pseudo-obstruction are temporary and recover within 3-6 days, but some obstruction progress and then perforation may occur. If the Cecal diameter of the obstruction is growing by more 11cm, in spite of inserting nasogastric tube and rectal tube with maintaining water and electrolyte balance treatment of underlying disease, normal saline enema carefully or endoscopic decompression without bowel preparation should be considered. At this time the air injection kept to a minimum and does not administer a narcotic pain killer.

Removal of colonic foreign body. Foreign body in lower rectum could be removed by finger, biopsy forceps or rectal endoscopy. And foreign body stands more upper site tries to remove by colonoscopy. If there is a possibility of bowel perforation of the colon or sharp foreign body in colon, bowel preparation could be performed by considering additional laparotomy. If foreign body is too large, try endoscopic removal under general anesthesia. In doubt, technically difficult or complications such as perforation or peritonitis underwent laparotomy.

Conclusions

The pre-surgical preparation for urgent colonoscopy is much difference for each indication. The patient with acute lower gastrointestinal bleeding should be ensured hemodynamic stability, before administration of PEG solution to acquire a proper colon cleanse. Intravenous metoclopramide (10 mg) may be improving ability to reduce nausea and gastric emptying. But, narcotic painkillers do not recommend, because it reduce mucosal blood flow so that difficult to find lesions such as vascular dysplasia. If endoscope could not pass but stool pass is able in patients with subtotal obstruction performed standard bowel preparation. But if stool was not passing, should be avoided bowel preparation. Sigmoid volvulus patients or patients with acute colonic obstruction, bowel preparation should not perform. If there is a possibility of bowel perforation of the colon or sharp foreign body in colon, bowel preparation could be performed by considering additional laparotomy.

References

4. Kollef MH, Canfield DA, Zuckerman GR. Triage considerations for patients with acute gastrointestinal hemorrhage admitted
5. Longstreth GF. Epidemiology and outcome of patients hospitalized with acute lower gastrointestinal hemorrhage: a pop-
163:838-843.
7. Das A, Ben-Menachem T, Cooper GS, et al. Prediction of outcome in acute lower-gastrointestinal haemorrhage based on an
8. Jensen DM, Machicado GA. Diagnosis and treatment of severe hematochezia. The role of urgent colonoscopy after purge.
11. Ragland JJ, Londe AM, Spratt JS Jr. Correlation of the prognosis of obstructing colorectal carcinoma with clinical and patho-
12. Mauro MA, Koehler RE, Baron TH. Advances in gastrointestinal intervention: the treatment of gastroduodenal and colorectal
13. Carty NJ, Corder AP. Which surgeons avoid a stoma in treating left-sided colonic obstruction? Results of a postal
14. Murray JJ, Schoetz DJ Jr, Coller JA, Roberts PL, Veidenheimer MC. Intraoperative colonic lavage and primary anastomosis in