Results of Emergency Gastroscopy for Acute Upper Gastrointestinal Bleeding Outside Official Hours at King Chulalongkorn Memorial Hospital

NATHAYA TANGMANKONGWORAKOON, MD*,
SURASAK AEKPONGPAISIT, MD*,
PADET VESKITKUL, MD*,
RUNGSUN RERKNIMITR, MD*,
PRADERMCHAI KONGKAM, MD*,
PINIT KULLAVANIJAYA, MB, CHB*

Abstract

This study was to evaluate the epidemiological characteristics, etiology and therapeutic outcome of active upper gastrointestinal bleeding in patients who underwent emergency gastroscopy outside official hours at the Gastroenterology Unit, King Chulalongkorn Memorial Hospital. From January to December 2002, 103 emergency gastroscopies were performed in 99 patients. There were 66 men and 33 women (mean age 55.4 years, range 22-98 years). Causes of bleeding were esophageal varices (29/99; 29.3%), gastric ulcer (25/99; 25.3%), duodenal ulcer (9/99; 9.1%), gastric varices (9/99; 9.1%) and miscellaneous (12/99; 12.1%). Etiology of bleeding was uncertain in 10.1 per cent of the cases. Therapeutic modalities for variceal bleeding were banding (78.6%), sclerotherapy (10.7%) and glue injection (10.7%). Endoscopic therapies for patients with non variceal bleeding were : epinephrine injection with bipolar coaptation (48.1%), epinephrine injection only (11.1%), bipolar coaptation alone (7.4%), heater probe (7.4%), epinephrine injection combined with heater probe (11.1%), epinephrine injection with bipolar coaptation and hemoclipping (7.4%), hemoclipping (3.7%), epinephrine injection with hemoclipping (3.7%). Initial hemostasis was achieved in 91.2 per cent of the patients (91/99). Recurrent bleeding within 72 hours developed in 9.1 per cent of patients (9/99). Of these, eight patients (88.9%) underwent re-endoscopy and bleeding was stopped in 62.5 per cent (5/8). And 2.0 per cent of patients (2/99) had to go for emergency surgery after failed therapeutic endoscopy. Overall mortality was 15.2 per cent (15/99). In conclusion, emergency gastroscopy can offer not only diagnostic but also therapeutic modality for patients with acute upper gastrointestinal bleeding. Endoscopic therapy is effective for both initial hemostasis and recurrent bleeding.

Key word : Gastrointestinal Bleeding, Emergency Gastroscopy, Endoscopic Therapy

TANGMANKONGWORAKOON N, RERKNIMITR R, AEKPONGPAISIT S, KONGKAM P, VESKITKUL P, KULLAVANIJAYA P
J Med Assoc Thai 2003; 86 (Suppl 2): S465-S471

* Gastroenterology Unit, Department of Medicine, Faculty of Medicine, Chulalongkorn University, Bangkok 10330, Thailand.

Upper gastrointestinal bleeding is one of the most common medical emergencies. Bleeding from the upper gastrointestinal tract is approximately five times more common than the lower tract[1,2]. The three major causes of upper gastrointestinal bleeding are peptic ulcer, gastric erosions and varices[3]. The accuracy and therapeutic potential of endoscopy generally makes it the procedure of choice. The timing of endoscopy depends on the severity and suspected cause of bleeding. Patients with persistent or recurrent bleeding should undergo urgent endoscopy to guide further therapeutic managements. Patients with underlying cirrhosis should undergo endoscopy as soon as possible, because these patients may have a potentially fatal source of bleeding. Emergency treatment may alter the outcome of these patients and is considered the first line management for both variceal and ulcer bleeding. Moreover, delay in diagnosis and treatment in high risk patients, will increase morbidity and mortality. In addition, low risk patients may benefit by safely avoiding hospitalization. A policy of early endoscopy may reduce resource use by minimizing potentially unnecessary admissions and by reducing the length of stay for those who are admitted. In the past, there was no emergency endoscopy outside official hours in our hospital. Patients with suspected upper gastrointestinal bleeding were admitted and had to wait for undergoing endoscopy in the day time. So 24-hour endoscopy service has been provided since January 2002 to decrease the morbidity and mortality mentioned above.

PATIENTS AND METHOD

Patients who underwent emergency gastroscopy outside official hours at King Chulalongkorn Memorial Hospital from January to December, 2002 were included in this study. The indication for emergency gastroscopy was high risk upper gastrointestinal bleeding. High risk bleedings were hematemesis or fresh blood per nasogastric tube, unstable vital signs, documented hematocrit drop of at least 6 per cent, and transfusion of two or more units of packed red blood cells. Written informed consent was obtained before the procedure.

Upper gastrointestinal endoscopy was performed to identify bleeding sources right after successful fluid resuscitations. Procedures in patients with an unstable condition were delayed until patients had been stabilized. Specific treatments depended on the diagnosis and the presence of continuous bleeding.

Rebleeding was suspected after the first endoscopy if the patient's vital signs became unstable or evidence of active bleeding was detected. Then repeat endoscopy was attempted. If the second endoscopic treatment failed then angiographic embolization or surgery was considered.

Subjects of interest for this study are: rate of rebleeding after the initial therapeutic endoscopy, rate of rebleeding after the second therapeutic endoscopy and mortality rate during hospitalization.

RESULTS

From January to December 2002, one hundred and three emergency upper endoscopies were performed in ninety-nine patients. There were 66 men and 33 women. The mean age was 55.4 years (range 22-98 years), with 40.4 per cent older than 60 years and 10.1 per cent older than 80 years. Eighty-three per cent of the patients (82/99) had coexisting illnesses. The most common underlying disease was cirrhosis (48.5%;48/99). Characteristics of the subjects are shown in Table 1.

Most common causes of bleeding were esophageal varices (29.3%), gastric ulcer (25.3%), duodenal ulcer (9.1%), and gastric varices (9.1%). Others were hemorrhagic gastritis (3.0%), Mallory Weiss tear (2.0%), gastric cancer (1.0%), tracheo-esophageal fistula (1.0%), gastric erosion (1.0%), gastrostomy wound (1.0%), duodenal mass suspected metastases from hepatocellular carcinoma (1.0%), duodenal

Table 1. Demographic data of 99 patients who underwent emergency gastroscopy.

	Number	Percentage
Sex		
Male	66	66.7
Female	33	33.3
Age mean age (yr)	55.4	
Range (yr)	22-98	
≥ 60 yr	40	40.4
≥ 80 yr	10	10.1
Coexisting illnesses		
Cirrhosis	48	48.5
Hypertension	7	7.1
Diabetes mellitus	6	6.1
Ischemic heart disease	5	5.1
Malignancy	6	6.1
COPD	2	2.0
Miscellaneous	8	8.1
No known underlying disease	17	17.2

COPD = Chronic obstructive pulmonary disease.

erosion from stent migration (1.0%), and Dieulafoy's lesion (1.0%). Diagnosis was uncertain in 10 cases (10.1%). Diagnosis was made after initial hospitalization in two patients (Dieulafoy's lesion and esophageal varices). Three patients had non upper gastrointestinal tract bleeding (two lower gastrointestinal tract and one upper airway lesion). The causes of bleeding are shown in Table 2.

Intervention procedures in patients with variceal bleeding included; banding (n = 22; 78.6%), sclerotherapy (n = 3; 10.7%), and glue injection (n = 3; 10.7%). Endoscopic therapies in patients with nonvariceal bleeding were; epinephrine injection combined with bipolar coaptation (n = 13; 48.1%), epinephrine injection alone (n = 3; 11.1%), bipolar coaptation alone (n = 2; 7.4%), heater probe alone (n = 2; 7.4%), hemoclipping alone (n = 1; 3.7%), epinephrine injection combined with heater probe coagulation (n = 3; 11.1%), epinephrine injection combined with bipolar coaptation and hemoclipping (n = 2; 7.4%), epinephrine injection combined with hemoclipping (n = 1; 3.7%). Endoscopic therapy is shown in Table 3.

Initial endoscopic therapy was able to stop bleeding in 91 of 99 patients (91.9%). Five of eight (62.5%) whose initial hemostasis were unsuccessful had portal hypertension related bleeding. The others were bleeding from gastric carcinoma (n = 1; 12.5%), duodenal erosion from biliary stent migration (n = 1; 12.5%) and duodenal ulcer (n = 1; 12.5%). Six patients continued to have bleeding and finally expired.

Recurrent bleeding within 72 hours developed in 9 patients. Characteristic data of patients who had rebleeding are shown in Table 4 and Table 5. Rebleeding rate in the variceal and nonvariceal group was 10.5 per cent and 8.2 per cent respectively. Two patients had rebleeding from esophageal varices. Of these, one patient died during the hospitalization due to cardiogenic shock and sepsis. Two of eight patients who bled from gastric varices developed rebleeding and one died. Rebleeding developed in one with gastric ulcer, two with duodenal ulcer. The etiology of bleeding was still obscured in 2 patients. Of these, one patient had multiple rebleeding from suspected portal hypertension related bleeding. He underwent transjugular intrahepatic portosystemic shunt (TIPS) and had no recurrent bleeding after two months of follow-up. The mortality rate of patients with rebleeding was 22.2 per cent (2/9) and all deaths were due to rebleeding from variceal cause.

After failed endoscopic therapy, only two patients were able to undergo surgery to stop bleeding. One patient underwent suturing to stop duodenal ulcer bleeding, and truncal vagotomy with pyloro-

Table 2. Causes of bleeding in emergency gastroscopy.

Causes of upper gastrointestinal bleeding	Number of case (N = 99)	Percentage
Portal hypertension related bleeding		
Esophageal varices	29	29.3
Gastric varices	9	9.1
Portal hypertensive gastropathy	3	3.0
Ulcer bleeding		
Gastric ulcer	25	25.3
Duodenal ulcer	9	9.1
Miscellaneous		
Mallory Weiss tear	2	2.0
T-E fistula	1	1.0
Hemorrhagic gastritis	3	3.0
Gastric erosion	1	1.0
Gastrostomy wound	1	1.0
Gastric cancer	1	1.0
Duodenal mass	1	1.0
Duodenal erosion from stent migration	1	1.0
Dieulafoy 's lesion	1	1.0
Unknown cause	10	10.1
Lower gastrointestinal bleeding	2	2.0
Upper airway lesion	1	1.0

Table 3. Endoscopic therapy.

Endoscopic therapy	N
Esophageal varices	
Endoscopic variceal ligation	22
Endoscopic variceal sclerotherapy	3
Gastric varices	
Histoacryl injection	3
Peptic ulcer	
Epinephrine injection	3
Bipolar coaptation	2
Heater probe	2
Hemoclipping	1
Epinephrine + bipolar coaptation	10
Epinephrine + hemoclipping	1
Epinephrine + heater probe	3
Epinephrine + bipolar coaptation + hemoclipping	2
Others	
Mallory Weiss tear	
Epinephrine + bipolar coaptation	2
Dieulafoy's lesion	
Epinephrine + bipolar coaptation	1

plasty was also performed. This patient was discharged from the hospital without sequele and no rebleeding occurred. Another patient underwent gastrostomy and suturing of gastric varices. She was stable and no rebleeding occurred for 4 days before she was transferred to another hospital. For other patients with continuous bleeding, their conditions were to unsuitable to undergo surgical procedures and the mortality rate of these patients was 100 per cent.

Endoscopic examinations were repeated in ten patients. Three were performed as emergency endoscopy due to rebleeding. After the second endoscopy, bleeding was stopped without recurrent bleeding in seven patients (70%).

Fifteen patients (15.2%) died during hospitalization. Seven were related to persistent or recurrent bleeding. Two patients died from complications of histoacryl injection. One developed bowel ischemia and sepsis. The other patient died from respiratory failure from histoacryl-induced pulmonary emboli. The mortality rate in peptic ulcers was lower than in the variceal group (8.8% *versus* 18.4%). Characteristics of the 15 patients who died are shown in Table 6.

DISCUSSION

Upper gastrointestinal bleeding is still a leading cause of medical burden in today's practice. In spite of improvements in diagnostic accuracy and advancement in management, the overall mortality associated with this condition has remained unchanged at approximately 4 to 14 per cent[4-11]. Although there are several factors which can predict poor prognosis such as old age, shock, comorbidity, and major stigmata of recent hemorrhage, the most important

Table 4. Characteristic data of patients who had recurrent bleeding in 72 hours.

Patients	Sex	Age	Causes of UGIB	Underlying disease	Rx after rebleeding	Outcome
1.	M	60	EV	Alcoholic cirrhosis	Variceal banding but continued bleeding	Dead from cardiogenic shock, sepsis
2.	M	74	EV	Cirrhosis, hepatocellular carcinoma	Repeated endoscopy but no active bleeding no endoscopic treatment	No rebleeding
3.	F	66	GV	Cirrhosis	Surgery suturing GV	No rebleeding
4.	M	57	GV	Cirrhosis	Histoacryl injection bleeding was stopped	Dead (from bowel ischemia)
5.	M	28	GU	Malignant hyperthermia with DIC	Repeated endoscopy no endoscopic treatment	No rebleeding
6.	F	70	DU	Cirrhosis	Repeated endoscopy no treatment	No rebleeding
7.	M	66	DU	Post aneurysmectomy with graft replacement	Repeated endoscopy epinephrine injection	No rebleeding
8.	M	72	Unknown	Hypertension	Repeated endoscopy no treatment	No rebleeding
9.	M	56	Unknown	Cirrhosis	Repeated endoscopy	Multiple rebleeding

EV = Esophageal varices, GU = Gastric ulcer, DU = Duodenal ulcer, DIC = Disseminated intravascular coagulopathy, GV = Gastric varices, UGIB = upper gastrointestinal bleeding

Table 5. Rebleeding in the variceal and nonvariceal group.

	Variceal group	%	Non-variceal group	%
Rebleeding	4/38	10.5	5/61	8.2
Successful 2nd endoscopic therapy	1/2	50	1/1	100
Surgery	1/4	25	0/5	0
Mortality rate	2/4	50	0/5	0

Table 6. Characteristics of 15 dead patients.

Patients	Sex	Age	Causes of UGIB	Underlying disease	Successful initial hemostasis	Causes of death
1.	M	83	GU	Chronic renal failure	Yes	Pneumonia, sepsis
2.	M	92	GU	COPD	Yes	Sepsis
3.	M	57	GV	Cirrhosis	Yes	Ischemic bowel
4.	M	44	PHG	HCV cirrhosis aplastic anemia	Yes	Sepsis, acute renal failure DIC
5.	M	53	GV	HBV cirrhosis	Yes	Pulmonary emboli
6.	M	51	Gastric erosions	Cirrhosis, HCC	Yes	Sepsis, hepatic coma
7.	M	67	EV	Pancreatic cancer Cirrhosis	Yes	Sepsis, hepatic coma
8.	M	68	DU	Unknown	Yes	Cardiac arrest
9.	F	66	Gastric cancer	DM, HT	No	DIC, intracerebral hemorrhage
10.	M	60	EV	Alcoholic cirrhosis	No	Cardiogenic shock, sepsis
11.	M	46	GV	Alcoholic cirrhosis	No	Prolonged shock
12.	M	43	EV	Alcoholic cirrhosis	No	Sepsis, acute renal failure
13.	F	39	PHG	Alcoholic cirrhosis	No	Sepsis, DIC
14.	F	53	EV	Alcoholic cirrhosis	No	Prolonged shock
15.	F	77	Stent migration	Pancreatic cancer with metallic stent	No	Sepsis, acute myocardial infarction

EV = Esophageal varices, GU = Gastric ulcer, GV = Gastric varices, DU = Duodenal ulcer, PHG = Portal hypertensive gastropathy, HBV = Hepatitis B virus, HCV = Hepatitis C virus, DIC = Disseminated intravascular coagulopathy, HCC = Hepatocellular carcinoma DM = Diabetes mellitus, HT = Hypertension, UGIB = upper gastrointestinal bleeding

prognostic indicators is the etiology of bleeding. Variceal hemorrhages have a much higher incidence of rebleeding and their mortality rates are also higher than others.

If the bleeding cannot be controlled then the patients may develop complications such as shock, acute renal failure, sepsis and eventually die. During the past decade emergency gastroscopy has become an important tool to identify and control bleeding. Currently it has been accepted as a standard of care to manage upper gastrointestinal bleeding.

In the present series, major causes of upper gastrointestinal bleeding in patients who underwent emergency gastroscopy were esophageal varices, gastric ulcers, duodenal ulcers and gastric varices. Recurrent bleeding in 72 hours was not higher than others (9.1% compared to 7 to 40%)[4,9,12-14]. The possible explanation for the differences in rebleeding rates may be the differences in the definition such as coffee ground or fresh blood hematemesis or unstability of vital signs or a fall in hemoglobin concentration. In addition, a low rebleeding rate may also be secondary from the liberal use of endoscopic therapy in those patients. The mortality rate in the rebleeding variceal group was higher than the nonvariceal group (50% *versus* 0%). In those with failed second endoscopic therapy, the rate of emergency surgery was similar to a previous study in our hospital[15]. The overall mortality (15.2%) in the present study appeared to be higher than previous studies, but in a study of Rockall et al[14], the mortality rate was similar (14%). In other large cohort studies published since 1985, the mortality rates were between 4 and 10 per cent[5-11]. Mean age in the present study was high (40.4% and

10.1% being older than 60 yr and 80 yr respectively). The majority of them (82.8%) had coexisting disease that may have lead to a poorer outcome. In addition, all those who died except one had significant concomitant diseases. Cirrhosis was the most common coexisting illness in the group with mortality (46.7%; 7/15). These factors are known to be predictors of a poor outcome in upper gastrointestinal bleeding[6,7,16,17] and it is very likely that differences in patient characteristics in the literature are mainly responsible for the difference in mortality rates.

Patients who bled from portal hypertensive gastropathy (PHG) had the highest mortality (66.7%) compared to gastric varices (33.3%), esophageal varices (14.3%), gastric ulcer (8.7%). The highest mortality of PHG may be from the severity of the patients' underlying illnesses such as sepsis, disseminated intravascular coagulopathy (DIC). Sadly, two patients with bleeding gastric varices died due to histoacryl induced ischemia. Unfortunately, there was no effective strategy to prevent these complications.

In conclusion, upper endoscopy is the diagnostic and therapeutic modality of choice for acute upper gastrointestinal bleeding, especially when emergency endoscopy is available. Endoscopy is highly effective in locating and identifying bleeding lesions in the upper gastrointestinal tract. In addition, once the lesion is identified, therapeutic endoscopy can achieve acute hemostasis and prevent recurrent bleeding in the majority of patients.

(Received for publication on April 21, 2003)

REFERENCES

1. Longstreth GF. Epidemiology of hospitalization for acute upper gastrointestinal hemorrhage: A population-based study. Am J Gastroenterol 1995; 90: 206-10.
2. Longstreth GF. Epidemiology and outcome of patients hospitalized with acute lower gastrointestinal hemorrhage: A population-based study. Am J Gastroenterol 1997; 92: 419-24.
3. Silverstein FE, Gilbert DA, Tedesco FJ, Buenger NK, Persing J. The national ASGE survey on upper gastrointestinal bleeding. I. Study design and baseline data. Gastrointest Endosc 1981; 27: 73-9.
4. Vreeburg EM, Snel P, de Bruijne JW, Bartelsman JF, Rauws EA, Tytgat GN. Acute upper gastrointestinal bleeding in the Amsterdam area: Incidence, diagnosis, and clinical outcome. Am J Gastroenterol 1997; 92: 236-43.
5. Morgan AG, Clamp SE. OMGE international upper gastrointestinal bleeding survey, 1978-1986. Scand J Gastroenterol 1988; 144 (Suppl): 51-8.
6. Katschinski B, Logan R, Davies J. Prognostic factors in upper gastrointestinal bleeding. Dig Dis Sci 1994; 39: 706-12.
7. Branicki FJ, Coleman SY, Fok PJ. Bleeding peptic ulcer: A prospective evaluation of risk factors for rebleeding and mortality. World J Surg 1990; 14: 262- 70.
8. Wara P. Endoscopic management of the bleeding ulcer. Dan Med Bull 1986; 33: 1-11.
9. Yavorski RT, Wong RK, Maydonovitch C. Analysis of 3,294 cases of upper gastrointestinal bleeding in military medical facilities. Am J Gastroenterol 1995; 90: 568-73.
10. Loperfido S, Monica F, Maifreni L. Bleeding peptic ulcer occuring in hospitalized patients: Analysis of predictive and risk factors and comparison with out-of-hospital onset of hemorrhage. Dig Dis Sci 1995; 39: 698-705.
11. Jeans PL, Padbury TA, Toouli J. A prospective evaluation of the management of bleeding peptic ulcer. Austr NZ J Surg 1991; 61: 187-93.
12. Foster DN, Miloszewski KJ, Losowsky MS. Stigmata of recent haemorrhage in diagnosis and prognosis of upper gastrointestinal bleeding. Br Med J 1978; 1: 1173-7.
13. Jones PF, Johnston SJ, McEwan AB. Further haemorrhage after admission to hospital for gastrointestinal haemorrhage. Br Med J 1973; 3: 660-4.
14. Rockall TA, Logan RF, Devlin HB, Northfield TC. Incidence of and mortality from acute upper gastrointestinal haemorrhage in the United Kingdom. Steering Committee and members of the National Audit of Acute Upper Gastrointestinal Haemorrhage. Br J Med 1995; 311: 222-6.
15. Thong-Ngam D, Tangkijvanich P, Isarasena S, Kladchareon N, Kullavanijaya P. A risk scoring system to predict outcome of non-variceal upper gastrointestinal bleeding in Thai patients. J Med Assoc Thai 1999; 82: 1234-40.
16. Silverstein FE, Gilbert DA, Tedesco FJ, Buenger NK, Persing J. The national ASGE survey on upper

gastrointestinal bleeding. II. Clinical prognostic factors. Gastrointest Endosc 1981; 27: 80-93.
17. Zimmerman J, Siguencia J, Tsvang E, Beeri R, Arnon R. Predictors of mortality in patients admitted to hospital for acute upper gastrointestinal hemorrhage. Scand J Gastroenterol 1995; 30: 327-31.

ผลการส่องกล้องระบบทางเดินอาหารส่วนบนแบบฉุกเฉินนอกเวลาราชการในผู้ป่วยที่มีเลือดออกจากทางเดินอาหารส่วนบนเฉียบพลัน ในโรงพยาบาลจุฬาลงกรณ์

ณัฐญา ตั้งมั่นคงวรกุล, พบ, รังสรรค์ ฤกษ์นิมิตร, พบ*, สุรศักดิ์ เอกพงศ์ไพสิฐ, พบ*, ประเดิมชัย คงคำ, พบ*, เผด็จ เวศกิจกุล, พบ*, พินิจ กุลละวณิชย์, พบ**

การศึกษานี้จัดทำขึ้นเพื่อประเมิน ลักษณะของผู้ป่วย สาเหตุ และผลของการรักษาในผู้ป่วยที่เข้ารับการส่องกล้องระบบทางเดินอาหารส่วนบนแบบฉุกเฉิน เนื่องจาก ภาวะเลือดออกจากทางเดินอาหารส่วนต้น ที่หน่วยโรคทางเดินอาหาร โรงพยาบาลจุฬาลงกรณ์ ระหว่าง 1 มกราคม–31 ธันวาคม พ.ศ. 2546 โดยมีผู้ป่วย 99 รายเป็นชาย 66 ราย หญิง 33 ราย (อายุเฉลี่ย 55.4 ปี, พิสัย 22–98 ปี) สาเหตุที่ตรวจพบคือ เส้นเลือดหลอดอาหารโป่งพอง (ร้อยละ 29.3), แผลในกระเพาะอาหาร (ร้อยละ25.3), แผลในลำไส้เล็กส่วนดูโอดีนัม (ร้อยละ 9.1), เส้นเลือดกระเพาะอาหารโป่งพอง (ร้อยละ 9.1), สาเหตุอื่น ๆ (ร้อยละ12.1) และไม่สามารถหาสาเหตุได้ (ร้อยละ 10.1) การรักษาที่ได้รับสำหรับเลือดออกจากภาวะเส้นเลือดโป่งพองได้แก่ banding (ร้อยละ78.6), sclerotherapy (ร้อยละ 10.3) และการฉีด histoacryl (ร้อยละ 10.7) การรักษาในกลุ่มอื่น ๆ คือการฉีด epinephrine injection ร่วมกับ bipolar coaptation (ร้อยละ 48.1), ฉีด epinephrine injection อย่างเดียว (ร้อยละ 11.1), bipolar coaptation อย่างเดียว (ร้อยละ 7.4), heater probe อย่างเดียว (ร้อยละ 7.4), ฉีด epinephrine ร่วมกับ heater probe (ร้อยละ 7.4), epinephrine injection ร่วมกับ bipolar coaptation และ hemoclips (ร้อยละ 7.4), hemoclips อย่างเดียว (ร้อยละ 3.7), epinephrine injection ร่วมกับ hemoclips (ร้อยละ 3.7) ภาวะเลือดออกหยุดได้ตั้งแต่การส่องกล้องครั้งแรกพบร้อยละ 91.2 (91/99) มีภาวะเลือดออกซ้ำภายใน 72 ชั่วโมง พบร้อยละ 9.1 (10/99) โดยผู้ป่วย 8 ใน 10 รายนี้ได้รับการส่องกล้องซ้ำและเลือดหยุด 5 ราย (ร้อยละ 62.5) มีผู้ป่วยร้อยละ 2.0 (2/99) ต้องเข้ารับการผ่าตัดเนื่องจากไม่สามารถควบคุมภาวะเลือดออกได้ อัตราตายทั้งหมดเท่ากับร้อยละ 15.2 (15/99) โดยสรุปการส่องกล้องระบบทางเดินอาหารส่วนบนแบบฉุกเฉินในภาวะเลือดออกจากระบบทางเดินอาหารเฉียบพลัน นอกจากจะช่วยในการวินิจฉัยแล้วยังสามารถใช้เป็นหัตถการในการรักษา และมีประสิทธิภาพดีในการหยุดเลือดทั้งระยะแรก และหลังจากที่มีภาวะเลือดออกซ้ำ

คำสำคัญ : ภาวะเลือดออกจากทางเดินอาหาร, การส่องกล้องระบบทางเดินอาหารส่วนบนแบบฉุกเฉิน, การรักษาด้วยการส่องกล้อง

ณัฐญา ตั้งมั่นคงวรกุล, รังสรรค์ ฤกษ์นิมิตร, สุรศักดิ์ เอกพงศ์ไพสิฐ, ประเดิมชัย คงคำ, เผด็จ เวศกิจกุล, พินิจ กุลละวณิชย์
จดหมายเหตุทางแพทย์ ฯ 2546; 86 (ฉบับพิเศษ 2): S465–S471

* หน่วยสาขาวิชาโรคทางเดินอาหาร, ภาควิชาอายุรศาสตร์, คณะแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย, กรุงเทพ ฯ 10330