

6-1972

The Endoscopic Approach to the Diagnosis of Upper Gastrointestinal Bleeding

Bernard M. Schuman

Roberto F. Gluckmann

Klaus Anselm

Robert J. Priest

Follow this and additional works at: <https://scholarlycommons.henryford.com/hfhmedjournal>



Part of the [Life Sciences Commons](#), [Medical Specialties Commons](#), and the [Public Health Commons](#)

Recommended Citation

Schuman, Bernard M.; Gluckmann, Roberto F.; Anselm, Klaus; and Priest, Robert J. (1972) "The Endoscopic Approach to the Diagnosis of Upper Gastrointestinal Bleeding," *Henry Ford Hospital Medical Journal* : Vol. 20 : No. 2 , 63-66.

Available at: <https://scholarlycommons.henryford.com/hfhmedjournal/vol20/iss2/3>

This Article is brought to you for free and open access by Henry Ford Health System Scholarly Commons. It has been accepted for inclusion in Henry Ford Hospital Medical Journal by an authorized editor of Henry Ford Health System Scholarly Commons.

The Endoscopic Approach to the Diagnosis of Upper Gastrointestinal Bleeding

Bernard M. Schuman, M.D.; Roberto F. Gluckmann, M.D.;
Klaus Anselm, M.D.; and Robert J. Priest, M.D.*

Fifty-nine consecutive patients who were bleeding from the upper gastrointestinal tract were examined endoscopically with fiberoptic instruments. The site and nature of the bleeding were identified in 84% of the patients without significant morbidity or mortality. Endoscopic examination of the esophagus, stomach and duodenum in the bleeding patient should be done within 12 to 24 hours after hospital admission and before barium study of the upper gastrointestinal tract.

The successful management of upper gastrointestinal hemorrhage depends primarily on localizing the site of bleeding and determining the nature of the bleeding lesion. Clinicians have utilized the barium study of the upper gastrointestinal tract as the major diagnostic tool despite the fact that this method could not be counted on for the diagnosis of erosive gastritis and, in many instances, would allow a diagnosis of duodenal ulcer only by inference. Until recently endoscopy was infrequently employed in bleeding patients because of the hazard of the multiple instrumentation needed for examination of both the esophagus and the stomach, and because the duodenum was out of endoscopic reach. With the introduction of a long forward-viewing fiberoptic panendoscope, it is now possible to evaluate esophagus, stomach and duodenum, with minimal risk to the patient, for exact

localization and diagnosis of the bleeding lesion. For the diagnostic management of upper gastrointestinal bleeding, we initiated a program which includes fiberoptic endoscopy as the first diagnostic approach. It is performed within 24 hours of the patient's admission to the hospital. This report concerns our experience with 59 consecutive bleeding patients handled in this fashion.

Material And Methods

The Olympus GIF and JFB fiberoptic gastroduodenoscopes were used for examination of the actively bleeding patients. The GIF fiberscope is 105 cms long and 13 mms in diameter; it has a forward-viewing lens which can be cleared by a water jet. The JFB fiberscope is 125 cms long and 10 mms in diameter; it has a lateral-viewing lens which can be cleared by water. Both instruments are equally satisfactory for duodenoscopy, but the GIF provides a superior view of the esophagus and the JFB allows all areas of the stomach to be surveyed.

Fifty-nine patients were examined at the time of active upper gastroin-

*Division of Gastroenterology,
Department of Medicine
Reprint requests should be addressed to the
authors care of Henry Ford Hospital,
Detroit MI 48202

Schuman, Gluckmann, Anselm and Priest

testinal hemorrhage. The patients were studied within the first 24 hours of hospitalization and before swallowing barium. Endoscopic evaluation was deferred if the patient's vital signs were unsatisfactory or if it was not possible to clear the stomach of blood by ice water lavage. Exceptions were made in instances where endoscopy was requested prior to insertion of a Sengs-taken-Blakemore tube or laparotomy.

Five to 10 mgs of diazepam was injected intravenously in most cases. The pharynx was anesthetized with 5% hexylcaine. The examination was usually done in the endoscopy room. No biopsies were done under these circumstances, but color photos taken with an external camera were frequently obtained.

Results

In a group of 59 consecutive patients, the site and nature of the bleeding were identified endoscopically in 49 or 84% of the patients (Table I). There was no significant morbidity or mortality due to endoscopy.

TABLE I

Endoscopic Diagnosis in 59 Bleeding Patients

Esophagus	
Varices, bleeding	4
Varices	1
Esophagitis	2
Stomach	
Erosions	19
Ulcer	15
Mallory-Weiss	2
Angioma	1
Duodenum	
Ulcer	8
Erosions	6
Angioma	1
Blood in bulb	4

Six patients were bleeding from the esophagus; four due to bleeding varices and two to esophagitis. Varices were noted in one patient, but were not considered the source of bleeding.

Thirty-seven patients were bleeding from lesions of the stomach. In 19 cases a diffuse erosive gastritis was found. Gastric ulceration was identified in 15 cases as the cause of hemorrhage. In two instances an esophagogastric mucosal tear or Mallory-Weiss syndrome was found. Angiomata of the stomach mucosa were diagnosed once.

Duodenoscopy was accomplished in 39 examinations. Eight patients were found to have bleeding duodenal ulcers. In six cases an erosive duodenitis was present. In four cases bleeding was localized to the duodenal bulb although a definite lesion could not be identified.

Subsequent roentgenographic study of the upper gastrointestinal tract was done in 54 patients. In 26 of this group, the radiologic diagnosis was normal and in 14 the diagnosis was deformity of the duodenal bulb. Thus, 46% of x-ray examinations were negative and in another 26% a non-specific diagnosis was made. In these 40 non-diagnostic x-ray examinations, 13 cases of erosive gastritis, 7 cases of gastric ulcer and 7 cases of duodenal ulcer were demonstrated endoscopically (Table II).

Of the 14 specific x-ray diagnoses, 8 had been endoscopically established previously (Table III).

Discussion

The early endoscopic diagnosis of acute upper gastrointestinal hemorrhage has been hampered, until recently, by the necessity of having two

Endoscopic Approach to Diagnosis of Upper Gastrointestinal Bleeding

Table II
Comparison of X-ray and Endoscopic Findings in 54 Bleeding Patients

X-ray		Endoscopy	
Normal	26	Erosions	11
		Gastric ulcer	4
		Duodenal ulcer	3
		Blood in bulb	2
		Varices	1
		Mallory-Weiss	1
Deformed bulb	14	Normal	4
		Duodenal ulcer	4
		Gastric ulcer	3
		Erosions	2
			5

instruments to examine both esophagus and stomach and by the inability to view the duodenum. Thus, a negative endoscopic study required a barium examination to exclude duodenal ulcer. Previous reports by Palmer¹ and Katz et al², although demonstrating a high incidence of gastric erosions, had a significant percentage (7%-18%) of endoscopically undiagnosed cases. A number of these were undoubtedly duodenal ulcer. A diagnosis of bleeding duodenal ulcer could only be made inferentially or by exclusion. With the advent of the fiberoptic panendoscope, the incidence of unknown bleeding

sites has been reduced to 4% by one group³, the improvement being related directly to visualization of the duodenal bulb.

In our study, 16% of patients remained undiagnosed endoscopically. The principal reason for this relatively high percentage is that this group varied in degree of hemorrhage. Not all were massive bleeders. Thus, since some of these patients had stopped bleeding by the time of endoscopy, acute erosive changes of gastric and duodenal mucosa may have been undetectable.

Another reason for not having diag-

Table III
Comparison of X-ray and Endoscopic Findings in 54 Bleeding Patients

X-ray		Endoscopy	
Duodenal ulcer	4	Duodenal ulcer	1
		Duodenitis	1
		Gastric erosions	1
		Duodenum normal	1
Gastric ulcer	4	Gastric ulcer	4
Varices	3	Varices, bleeding	2
		Varices, not bleeding	1
Post-operative stomach	1	Esophagitis	1
Hiatus hernia	1	Gastric erosions	1
Antral deformity	1	Duodenal ulcer	1

Schuman, Gluckmann, Anselm and Priest

nosed these 10 patients is that duodenoscopy was accomplished in just two-thirds of them. (Duodenoscopy was not always done if a definite bleeding site had been identified in the esophagus or stomach.) Moreover, the JFB endoscope is less easily passed into the duodenum and this instrument accounted for most of the failures to visualize the duodenum. However, it can be anticipated that about 5% of patients will not be amenable to duodenoscopy with any instrument because of severe antroduodenal deformity. Since this study was completed, the GIF endoscope has been used almost exclusively for patients with bleeding problems and the duodenum is visualized in over 90% of cases.

This study again confirms the high incidence of superficial mucosal bleeding lesions. Esophagitis (2 patients), erosive gastritis (19 patients) and bulbitis (6 patients) accounted for almost one-half of our cases. Many of these patients had normal findings in upper gastrointestinal tests. Bulbitis is now recognized as a distinct duodenal disease and a significant cause of hemorrhage. It does not correlate well with the x-ray finding of duodenal deformity which appears to be misleading more often than not.

A large number of bleeding patients have an alcoholic history or liver disease. It is important to determine not only that varices are present, but that the varices are bleeding. The specific management of bleeding cirrhotic patients is crucially dependent on proving the bleeding site and the nature of the lesion. In a large series from St. Vincent's Hospital in New York City,⁴ over half of the cirrhotic patients bled from lesions other than varices and, in 12% of the total group of 203 patients, the Mallory-Weiss syndrome was diagnosed. We encountered five cases of varices, four of which were actively bleeding at the time, but most of the patients with an alcoholic history bled from other causes.

There is no doubt that fiberoptic endoscopy for upper gastrointestinal bleeding of minimal, moderate or massive degree will provide an accurate diagnosis with safety and little discomfort to the patient. Its value is enhanced by prompt utilization of the technique. We recommend fiberoptic esophagogastroduodenoscopy as soon as the bleeding patient's condition permits—certainly within 12 to 24 hours after hospital admission, and before the barium study of the upper gastrointestinal tract.

REFERENCES

1. Palmer, ED: *Upper Gastrointestinal Hemorrhage*. Springfield, Ill., Charles C. Thomas Company, 1970
2. Katz, D, et al: Early endoscopic diagnosis of acute upper gastrointestinal hemorrhage. *JAMA* 188: 405-8, 4 May 1964
3. Kern, E, et al: Duodenoscopy re-evaluated: Our second year of experience, abstracted, *Gastroenterology* 62:890, Apr 1972
4. Bonanno, CA; Robilotti, JG Jr., and Martel, AJ: The value of emergency endoscopy in active bleeders, abstracted, *Gastroenterology* 62:883, Apr 1972