Journal of Rawalpindi Medical College (JRMC); 2003;7(2):89-92

Endoscopic Evaluation of 2484 Patients with Upper GI Haemorrhage

Muhammad Khurram, Saima Javed, Hamama tul Bushra Khaar,
M Fayyaz Goraya, Zubair Hasan.

Department of Medicine, DHQ Teaching Hospital/Rawalpindi Medical College, Rawalpindi

Abstract

Background: To study etiology of upper gastro-intestinal [GI] haemorrhage with flexible upper GI endoscopy.

Methods: 2484 patients who were endoscoped at DHQ Teaching Hospital, Rawalpindi, from October to December 2003, for evaluation of upper GI haemorrhage were included. Record of these patients that included patient characteristics, endoscopic diagnosis etc was analyzed using statistical program, SPSS version 8.

Results: Of the 2484 patients, 68% were female and 32% male. Mean patient age was 38.8 ± 12.6 years. Erosive gastritis [15.6%], esophago/gastro/duodenitis [15.3%], duodenitis [14.7%], varices [12.9%], and peptic ulcer disease [8.3%] were commonest endoscopic diagnosis. 24% patients had normal upper GI endoscopy.

Conclusion: Erosive gastritis, esophago/gastro/duodenitis, duodenitis, varices, and peptic ulcer disease are common causes of upper GI haemorrhage in our patients.

Introduction

Upper gastrointestinal haemorrhage is a common medical problem. It is defined as GI haemorrhage from a source proximal to the ligament of Treitz. Incidence of upper GI haemorrhage varies from 47 to 150 per 100,000 of the population.[1,2] Higher figures are noted in socio-economically deprived areas.[1,2] Upper GI bleed related hospital mortality is about 10%.[1] Bleeding peptic ulcer, varices, gastritis including erosive disease, vascular malformation, and Mallory-Weiss tear are common causes of upper GI haemorrhage.[3] Helicobacter pylori [HP] infection, non-steroidal anti-inflammatory drugs [NSAIDs], alcohol, and chronic liver disease are risk factors for upper GI haemorrhage.[4-7]

Endoscopy unit DHQ Teaching Hospital is functional for last 11 years. While working on a recently published audit of upper GI endoscopic procedures we noted number of deviations from standard text book findings.[8] This sub audit was done primarily to focus on etiology of upper GI haemorrhage in our patients, which was different from that described in literature.

Patients and Methods

This descriptive study was conducted at Department of Medicine, DHQ Teaching Hospital, Rawalpindi from October to December 2003. We reviewed the record of all upper GI endoscopic procedures done since start of this service at this hospital i.e., 1990. Data of patients who underwent upper GI endoscopy for evaluation of upper GI haemorrhage was collected. Upper GI haemorrhage was defined as a haematemesis or passage of melena or other firm clinical or laboratory evidence of blood loss from the upper GI tract.

Each patient's record contained information regarding age, gender, address, and endoscopic diagnosis. Details about predisposing factors [uptake of NSAIDs, HP infection based on histopathology of biopsy specimens, alcohol, chronic liver disease] were also available in some cases. This data was converted into variables that were analyzed using frequency and cross table function of computer-based program SPSS [statistical package for social sciences] version 8.

Results

Of the 2484 patients who underwent upper GI endoscopy 68% [n=1687] were female and 32% [n=797] were male. Mean patient age was 38.8 ± 12.6 years. Age range is detailed in Table 1. Erosive gastritis, esophago-gastro-duodenitis, duodenitis, and varices [esophageal mainly] were the commonest endoscopic diagnoses (Table 2). Patients with diagnosis of peptic ulcer included those with gastric ulcer alone [n=116, 31 male, 85 female], gastric and duodenal ulcer [n=48, 45

male, 3 female], and duodenal ulcer alone [n=42, 13 male, 29 female]. 12.4% [n=309] patients were cirrhotic. 11.3% [n=281] patients had history of NSAIDs uptake. History of alcohol uptake was positive in 0.4% [n=10] patients. Gastric biopsy reports of 8.8% [n=220] patient were available. HP was demonstrated in 90.9% [n=200] of these biopsies.

Table 1: Age Distribution

Age (years)	Number	% age
11-20	313	12.6
21-30	376	15.1
31-40	522	21
41-50	899	36.2
51-60	349	14
61-70	22	0.9
71-80	3	0.1
TOTAL	2484	100

Discussion

Peptic ulcers are considered commonest cause of upper GI haemorrhage, accounting for about 50% cases.[1, 9] Gastroesophageal variceal haemorrhage is responsible for 5-30% cases, while esophagitis causes up to 2-10% of upper GI haemorrhages.[1, 10] Other common causes include gastroduodenal erosions [3-11%], Mallory Weiss tears [5%], and neoplasms [4%].[1] Erosive gastritis, esophago-gastro-duodenitis, duodenitis, varices, esophagitis, and peptic ulcer disease were causes of upper GI haemorrhage in our patients.

Somewhat related causes of upper GI haemorrhage have been noted in other studies as well. Erosive disease accounted for 12.3% cases of upper GI bleed in a similar French study of 2133 patients. Peptic ulcer, and varices were however commonest diagnosis in this study.[11] Similar results were noted in a prospective study of 1534 patients from Greece.[12] Peptic ulcer and gastroduodenal erosions were most frequent causes of upper GI haemorrhage in a Croatian study of 5955 patients.[13] Gastroduodenitis accounted for 21.9% cases of upper GI haemorrhage in a Malaysian study.[14] Gastroduodenitis and peptic ulcer were commonest causes of upper GI haemorrhage in a study from Iran.[15] In a related study from Saudi-Arabia, bleeding varices were commonest [38.23%] cause of upper GI haemorrhage.[16] Most common causes of haemorrhage in a Mexican study of 6784 patients were ruptured esophageal varices [33.85%], and gastritis [31.12%].[17] Duodenal ulcer [31.5%], erosive mucosal disease [30.8%], esophageal varices [31.5%] and gastric ulcer [6.2%] were major causes in an Indian study.[18]

Hussain and colleagues noted esophageal varices [35.2%], duodenal ulcer [21.6%] and reflux esophagitis [8.1%] in 37 patients who were admitted in a military hospital with upper GI haemorrhage at Rawalpindi.[19] Esophageal varices [35%] and duodenal ulcer [20%] were common causes of upper GI bleed in another local study.[20] Varices were noted in 54, while peptic ulcer disease in 32 of 100 patients who were admitted in Mayo Hospital, Lahore with diagnosis of upper GI haemorrhage.[21] Varices [54%], gastric erosions [20%], peptic ulceration [12%], and esophageal ulcer [9%] were common causes of upper GI haemorrhage in a similar study of 444 patients from Rahim Yar Khan.[22]

As is evident from above mentioned local and international studies, etiology of upper GI haemorrhage varies in different areas. Peptic ulcer, gastroduodenitis, esophagitis, and varices are common causes of upper GI haemorrhage. We had similar observations, however frequency of these causes differs remarkably between our findings and other studies. HP infection seems a contributor to this. Despite the fact that HP status of few of our patients was known, HP was demonstrated in 90.9% of patients in whom gastric biopsies were done. Clinical course of HP infection is highly variable. Gastritis, peptic ulceration, mucosal atrophy, gastric carcinoma, or gastric lymphoma all are related with HP infection.[4] Various studies have documented high prevalence of HP infection in our country.[23, 24]

Compared to other local studies varices were less frequently noted in our patients, despite the fact that 12.4% of patients were cirrhotics.[20-22] NSAIDs were used by 11.3% of our patients. Advanced age, history of peptic ulcer disease and male sex are risk factors for upper GI haemorrhage in patients taking NSAIDs.[5] Although NSAID use is significantly associated with ulcer-related haemorrhage, it is also associated with non ulcer-related upper GI haemorrhage.[6]

Table 2: Endoscopic Diagnosis, Total and Gender Wise

Endoscopic diagnosis	Frequency and %	Male	Female
Erosive gastritis	389 (15.6%)	253	136
E/g/duodenitis*	382 (15.3%)	5	377
Duodenitis	367 (14.7%)	110	257
Varices	322 (12.9%)	138	184
Esophagitis	221 (8.8%)	6	215
Peptic ulcer	206 (8.29%)	89	117
Normal	597 (24%)	196	401
Total	2484 (100%)	797	1687

** E/g/duodenitis - Esophago-gastro-duodenitis,*

Generally duodenal ulcers are commoner compared to gastric ulcers. Gastric to duodenal ulcer ratio is generally 1:2-3.[25] We noted more gastric ulcers compared to duodenal ulcers. Gastric to duodenal ulcer ratio in our patients was 1.8:1. Epidemiological studies show that from 1970-1985 a marked decrease in duodenal ulcer rate occurred, while the rate of gastric ulcer remained stable.[26] HP infection, dietary factors, and NSAIDs are responsible for this. HP infected individuals are three times more likely to develop gastric ulcers compared to non-infected persons.[26]

In 24% patients [n=597], we were unable to note the cause of upper GI haemorrhage. Currently the site of acute upper GI haemorrhage can be endoscopically determined in 98% patients within first 48 hours.[27] Accuracy of endoscopy in detecting cause of haemorrhage in our study is less. The reason may be that many patients were endoscoped 48 hours after onset of upper GI haemorrhage. More females underwent upper GI endoscopy for evaluation of upper GI bleed compared to males [2.1:1]. In related studies we did not find female preponderance.[2, 19] Except for gastritis all endoscopic diagnoses were common in females. Similarly more females had normal upper GI endoscopy compared to male patients. However these findings were not statistically significant.

References

1. Dallal HJ, Palmer KR. Upper GI haemorrhage. BMJ 2001; 323: 1115-17.
2. Wilcox CM, Clark WS. Causes and outcome of upper and lower GI bleeding: The Grady Hospital. SMJ 1999; 92(1): 44-50.
3. Dam JV, Brugge WR. Endoscopy of the upper GI tract. NEJM 1999; 341(23): 1738-48.
4. Goodwin CS, Armstrong JA, Marshall BJ. Campylobacter pylori, gastritis, and peptic ulceration. J Clin Pathol 1986; 39: 353-65.
5. Hernández-Díaz S, Rodríguez LAG. Association between nonsteroidal anti-inflammatory drugs and upper gastrointestinal tract bleeding/perforation: an overview of epidemiologic studies published in the 1990s. Arch Intern Med. 2000; 160: 2093-99.
6. Wilcox CM, Shalek KA, Cotsonis G. Striking prevalence of over-the-counter nonsteroidal anti-inflammatory drug use in patients with upper gastrointestinal haemorrhage. Arch Internal Medicine 1994; 154(1): 42-46.
7. Gilbert DA. The national ASGE survey on upper gastrointestinal bleeding: III. Endoscopy in upper gastrointestinal bleeding. Gastrointest Endosc 1981; 27: 94-102.
8. Khurram M, Khaar HTB, Hasan Z, Umar M, Javed S, Asghar T, et al. A 12 years audit of upper gastrointestinal endoscopic procedures. JCPSP 2003; 13(6): 321-24.
9. Laine L, Peterson WL. Bleeding peptic ulcer. NEJM 1994; 331(11): 717-23.
10. Sharara AI, Rockey DC. Gastroesophageal variceal haemorrhage. NEJM 2001; 345(9): 669-81.
11. Czernichow P, Hochain P, Nousbaum JB, Raymond JM, Rudelli A, Dupas JL, et al. Epedemiology and course of acute GI haemorrhage in four French geographical areas. Eur J Gastroenterol Hepatol 2000; 12(2): 175-81.
12. Thomopoulous K, Katsakoulis E, Vagianos C, Mimidis K, Margaritis V, Nikolopoulou V. Causes and clinical outcome of acute upper GI bleeding: a prospective analysis of 1534 cases. Int J Clin Pract 1998; 52(8): 547-50.
13. Depolo A, Dobrila-Dintinjana R, Uravi M, Garbas H, Rubini M. Upper GI bleeding- review of our ten years results. Zentalbl Chir 2001; 126(10): 772-76.
14. Lakhwani MN, Ismail AR, Barras CD, Tan WJ. Upper GI bleeding in Kuala Lumpur Hospital, Malaysia. Med J Malaysia 2000; 53(4): 498-505.
15. Haghighat M. Acute upper GI haemorrhage in children: the role of endoscopy in diagnosis and treatment. Irn J Med Sci 1996; 21(1&2): 19-20.
16. Khalid K, Salamah S. Variceal bleeding revisited: a clinicoepidemiological study. JCPSP 2001; 11(12): 754-58.
17. Guzmán VG, Soto GM, Flores CA, Rico SE, Roesch DF, Garcia RV, et al. Frequency and causes of haemorrhage in the upper digestive tract in patients in Veracruz, Mexico. Cir Ciruj 2002; 70(1): 3-7.
18. Pruthi HS, Sharma SK, Singh B, Anand AC. Aetiology of upper gastrointestinal haemorrhage - an endoscopic study. Medical Journal Armed Forces India 2000; 56(3): 188-91.
19. Hussain T, Mirza S, Sabir S. Etiology and outcome of acute upper GI haemorrhage cases admitted to Military Hospital, Rawalpindi. Pak Armed Forces Med J 2001; 51(2): 111-16.
20. Khokhar N. Management of acute upper GI haemorrhage. Pak Armed Forces Med J 2001; 51(1): 14-17.

21. Nasir NU, Nadeem MA, Imran M, Hussain I, Chaudhry NU. Esophageal varices vs peptic ulcer: a study of 100 patients presenting in Mayo hospital with upper GI bleeding. Pak J Gastroenterol 1998; 12(1-2): 10-15.
22. Ch AW. Pattern of upper GI bleeding at Sheikh Zayed Hospital, Rahimyarkhan and management of acute variceal bleeding. Abstract book of the 18th Gastroenterology Congress; 2002 May 2-5; Karachi. Pakistan; 2002. P. 72.
23. Ul Wadood A, Rehman AU, Masud U, Mirza JA, Sahibzada NJ. Helicobacter associated gastritis a clinicopathological study at Quetta. Biomedica 1997; 13 (2): 57-59.
24. Bushra HT, Umar M, Khan NY, Latif Z. Helicobacter pylori and chronic gastritis. Pak J Gastroenterol 1995; 9(2): 25-27.
25. Kumar P, Clark M (editors). Epedemiology of peptic ulcer disease. In: Clinical medicine. 4th ed. Edinburgh. WB Saunders 1998: 237-38.
26. Shrestha S. Gastric ulcers. eMedicine Journal [online] 2002 [cited 2004 January 2]. Available from: URL: http://www.emedicine.com/med/topic849.htm
27. Peterson WL, Barnett CC, Smith HJ, Allen MH, Corbett DB. Routine early endoscopy in upper GI bleeding. A randomized controlled trial. NEJM 1981; 304(16): 925-29.

Correspondence

Primary Extra Peritoneal Pregnancy

TO THE EDITOR: I read with interest the case report by Bhopal FG et al regarding first ever reported case of Primary Extra Peritoneal Pregnancy. (Bhopal FG, Tazeem A, Azim F, Akhtar T, Rai A. Primary Extra Peritoneal Pregnancy. JRMC 2002; 6(2): 77-79).

I am not sure the authors were dealing with extra peritoneal pregnancy. Once the pregnancy is attached to the anterior abdominal wall, the placenta will eat up the peritoneum to infiltrate the anterior abdominal muscles. Covering membranes of the fetus may look like parietal peritoneum, the whole complex creating an illusion of extra peritoneal pregnancy. The only proof of extra peritoneal location of pregnancy would have been provided on histopathology of covering membranes. May I ask if the authors took appropriate samples to prove their diagnosis histopathologically?

Muhammad Aslam
Professor of OB/GYN
Rawalpindi Medical College, Rawalpindi.

The Author's Reply:

TO THE EDITOR: The case I have reported, fulfils the criteria of primary peritoneal pregnancy set by Studdiford in 1942 and modified by Friedrich and Rankin in 1968. The placenta was found to be implanted in inguinal canal (through which round ligament of uterus passes) and not on the peritoneal surface. Membranes were completely necrotic, apart from a small rim surrounding the placenta. Parietal peritoneum was intact. Histopathology of membranes would have been a futile attempt as it would have revealed nothing but necrotic material.

In the end I would say, it was not an illusion. Case like this can occur. There is always a first time for everything.

Faisal G. Bhopal
Associate Professor of Surgery
Rawalpindi Medical College, Rawalpindi.