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Original Research Article

Study of clinical and endoscopic profile of dyspepsia and upper gastrointestinal bleed

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ABSTRACT

Background: Upper gastrointestinal bleed (UGIB) and dyspepsia are the commonest indications for an upper GI endoscopy (UGIE), which has the potential to provide both diagnostic and therapeutic intervention. Alarm symptoms in patients with dyspepsia need proper evaluation.
Methods: In an observational hospital-based study, 5117 patient undergoing upper GI endoscopy were evaluated at Mahatma Gandhi Medical College and Hospital, Jaipur, Rajasthan, India. Detailed clinical and endoscopic profile was evaluated for subjects with dyspepsia and UGIB. Statistical analysis was done using SPSS version 21.0.
Results: Dyspepsia (2887, 56.41%) followed by upper GI bleed (1124, 21.97%) were the most common indications for UGIE. In subjects presenting with UGIB, most patients had both hematemesis with Malena (48.04%), 48.93% were chronic alcoholics and nearly one fourth (26.96%) were on NSAIDS. Variceal bleeding (52.94%), followed by peptic ulcer bleed (13.43%) were the most common causes of bleed. In subjects undergoing UGIE for dyspepsia, 37.41% revealed no endoscopic lesion followed by gastro-duodenitis (25.01%). Peptic ulcer was cause of dyspepsia in 18.05% and was significantly more in those with alarm symptoms (<0.001). Alarm symptoms in dyspepsia has a significant high likelihood of finding a malignant lesion on endoscopic evaluation (p 0.013).
Conclusions: Variceal bleed is the most common cause of UGIB in the adult Indian population. In patients with dyspepsia, presence of alarm symptoms is significantly associated with organic lesion on endoscopy. Although the incidence of malignancy is low, endoscopy in more than 50years subjects presenting with dyspepsia may help in early diagnosis and reducing morbidity.

Keywords: Dyspepsia, Endoscopy, Hematemesis, Malena

INTRODUCTION

Upper GI endoscopy can efficiently aid both in diagnosis and providing therapeutic intervention in various gastrointestinal disorders. Two most common indications for endoscopy in present times are, upper gastrointestinal bleed (UGIB) and evaluation of non-responding dyspepsia. Upper gastrointestinal bleed hasi a reported mortality rate of 5% to 11%, which signifies a serious and life-threatening entity.[1] Early endoscopic evaluation may not just aid in diagnosing the cause of bleed but also opens a window of early therapeutic intervention, reducing the costs and duration of hospitalization.[2]

The term “dyspepsia” is derived from the Greek words ‘dys’ and ‘pepse’, which means “difficult digestion”. Dyspepsia is a symptom complex, definition of which has evolved from that of any symptom felt to be referable to the upper GI tract, in the Rome IV criteria.[3] Rome IV criteria for functional dyspepsia, requires one or more of

the following four symptoms i.e. bothersome postprandial fullness, early satiety, epigastric pain or burning, to be present during last three months with onset at least six months before diagnosis. Dyspepsia accounts for around 40% of gastroenterologist consultations.[4]

Dyspeptic patients with alarm symptoms should be promptly evaluated with endoscopy for early diagnosis of occult malignancy. Alarm symptoms associated with dyspepsia includes age more than 50years, unintended weight loss, family history of upper GI malignancy in a first-degree relative, persistent vomiting, dysphagia, odynophagia, GI bleeding or anemia and abnormal imaging suggestive of an organic disease.

Author aimed to study the clinical, etiological and endoscopic profile of patients presenting with upper GI bleed and dyspepsia. Also, author aimed to study the effectiveness of alarm symptoms in predicting need for upper GI endoscopy and its clinical association with underlying malignancy.

METHODS

This observational study was undertaken in Department of Gastroenterology, Mahatma Gandhi Medical College and Hospital, Jaipur, Rajasthan, India from September 2016 to September 2018. Clinical and endoscopic data of patients (more than 18years of age) undergoing upper GI endoscopy (UGIE) was collected and evaluated. Total 5117 patients were evaluated, these study subjects included outdoor (OPD), indoor (IPD) and referred patients from other departments. Two groups were formed based on patient presentation, dyspepsia (n 2887) and upper GI bleed (n 1124). Dyspepsia group was divided in subjects with and without alarm symptoms. UGIB was defined as both hematemesis and/or Malena based on history. After obtaining written informed consent, all study subjects underwent relevant clinical history and examination, including history of GI bleed, associated risk factors, dyspepsia, risk factors for liver disease (e.g. viral, alcohol), history of non-steroidal anti-inflammatory drugs, anti-platelet and associated comorbid diseases were noted. Clinically and hemodynamically unstable patients (e.g. shock, acute perforation, acute myocardial infarction) unfit for UGIE were excluded. Statistical analysis was done using SPSS 20.0. Chi-square test, Fisher's exact test were used wherever applicable. A p value of less than 0.05 was considered significant.

RESULTS

The study group comprised of 5117 subjects, who underwent UGIE for various reasons commonest being dyspepsia (2887, 56.41%) followed by Upper GI bleed (1124, 21.97%). In subjects presenting with UGIB, the age ranged from 18 to 84years, mean age being 47.87±16.16years. Total 886 (78.83%) subjects were males (Table 1).

Table 1: Epidemiological and clinical profile of patients with upper GI bleeding.

Parameter	Subjects (n=1124)	%
Male	886	78.83
Alcohol	550	48.93
NSAID	303	26.96
Alcohol + NSAID	77	6.85
Hematemesis	383	34.07
Malena	202	17.97
Hematemesis + Malena	540	48.04

NSAIDS: Non-steroidal anti-inflammatory drugs.

Most common presentation was in form of both hematemesis and Malena (48.04%), followed by hematemesis (34.07%) whereas only 17.97% presented with complaint of Malena alone. Almost half (48.93%) UGIB subjects were chronic alcoholics and one fourth (26.96%) were on NSAIDS (including aspirin) at time of GI bleed episode.

In this study, portal hypertension leading to esophageal and/or gastric varices was the most commonly cause of UGIB (52.94%), followed by peptic ulcer (13.43%), erosive gastro-duodenitis (12.28%), gastrointestinal malignancy (4.7%) and gastric ulcer (6.94%). No endoscopic lesion could be identified in 11.92% patients with UGIB (Table 2).

Table 2: Endoscopic profile of upper GI bleed patients.

Final diagnosis	Subjects, n=1124	%
Normal	134	11.92
Portal HTN related (eso-phageal and gastric varices)	595	52.94
Erosive gastroduodenitis	138	12.28
Gastric ulcer	78	6.94
Duodenal ulcer	73	6.49
Gastrointestinal malignancy	53	4.7
Mallory weis tear	33	2.93
Others	20	1.78

A total 2887 subjects underwent UGIE for dyspepsia in the study period, 82% of subject with alarm symptoms and 53.07% without alarm symptoms, had an organic lesion (Table 3). Total 1080 (37.41%) subjects with dyspepsia had a normal UGIE. Gastro-duodenitis was the most common endoscopic lesion (25.01%), which showed a comparable distribution among with and without alarm symptom groups. Peptic ulcer was the next most frequent endoscopic finding among dyspeptic subjects (18.05%), significantly more in those with alarm symptoms (34.64% vs 9.91%).

Esophagitis (12.64%), esophageal candidiasis (1.7%) and other lesions (1.7%) (Dieulafoy lesion, hiatus hernia, gastric polyp, postoperative cases) showed no significant association with alarm symptoms.

Table 3: Comparing endoscopic findings of patient of dyspepsia with alarm and without alarm symptoms.

Endoscopic finding	Dyspepsia without alarm symptoms		Dyspepsia with alarm symptoms		p value
	n=1937	%	n=950	%	
Normal	909	46.93	171	18	<0.01*
Erosive gastroduodenitis	543	28.03	179	18.84	0.28
Peptic ulcer (gastric/duodena)	192	9.91	329	34.64	<0.001*
Esophagitis	213	10.99	152	16	0.9
GI malignancy	29	1.5	48	5.05	0.04*
Esophageal candidiasis	21	1.08	28	2.95	0.74
Others	30	1.55	43	4.53	0.06

*p<0.05.

Table 4: Outcome of endoscopy in patient of dyspepsia with and without alarm symptoms.

Study groups	Normal	Benign	Malignant	Total	P value
Dyspepsia without alarm symptoms	909	999	29	1937	0.013
Dyspepsia with alarm symptoms	171	731	48	950	

GI malignancy (2.67%) was significantly associated with presence of alarm symptoms in subjects presenting with dyspepsia (p 0.013) (Table 4). All dyspeptic subjects with malignant lesions were of more than 50years age and had symptom duration more than 8months.

DISCUSSION

The mean age in this study in patients presenting with UGIB was 47.87±16.16years, which was comparable to several past studies.[5,6] Studies from India by Anand CS et al, and Rao TH et al, reported mean age as 41years and 43years respectively.[7,8] Whereas a UK audit showed even higher mean age of 64.4, probably owing to easily accessible health services and timely prophylactic measures.[9] A male predominance as in this study (78.83%) was also reported by Bhatarai J et al, (71%) and Kashyap R et al, (78.4%).[10,11] 11.92% UGIB patients had a normal endoscopy in this study, which was similar to 13.9% of Cotton PB et al.[12] Most UGIB patients in this study presented with hematemesis with malena, followed by hematemesis, similar pattern has also been reported by Dewan KR et al.[13] More than half (52.94%) of the UGIB cases were attributed to portal hypertension i.e. esophageal or gastric variceal bleed. As compared to 408 subjects studied by Anand et al, attributing UGIB to varices in 45.5%, Rao et al, studied 1480 UGIB patients at AIIMS, Delhi suggesting this rate to be 51%, owing to a similar large sample this results coincide more with Rao et al.[7,8] In Indian subjects, portal hypertension has remained the most prominent cause of UGI bleed, which was markedly high when compared to data of developed countries as UK Audit 2007 has reported only 11% and in US only 6% has been reported.[9,14] The second commonest cause of UGIB in this study was peptic ulcer (13.43%), which was significantly less than previously reported incidence of 38.5% and 28% probably owing to widespread proton pump inhibitor use.[7,8] Erosive Gastroduodenitis, was the third commonest cause of UGIB (12.28%), which was similar to that suggested by recent work by Dewan KR et al, (11%) but significantly higher than 9% as suggested in some older Indian studies.[7,8,13] This may be attributed to changing lifestyle pattern, diet, frequent use of alcohol and over the counter NSAIDS.

On evaluating 2887 dyspeptic subjects, 1080 (37.41%) had a normal UGI endoscopy (Table 3). Sumathi B et al, reported a normal study in 1453 patients (42.3%), these small variations may be due to the socio-demographic differences.[15] Almost one fourth subjects (722, 25.01%) had erosive gastro-duodenopathy. Followed by peptic ulcer in 18.05%. Similar results have been reported in several other studies.[16,17] Peptic ulcers were shown to be significantly associated with alarm symptoms in patients with dyspepsia (p<0.001) (Table 3). Occurrence of esophagitis has been reported to be between 11 to 15% in similar studies in past.[16,17] As compared to 12.64% in this study. GI malignancy was detected in 2.67% subjects presenting with dyspepsia also all such patients had age more than 50years and symptom duration more than 8months. Kumar S et al, Manes G et al, Gado A et al, Thomson AB suggested the prevalence of malignancy to be 4.5%, 2.8%, 0.86 and less than 2%.[16-19] In this study, GI malignancy was seen in only 1.5% of dyspepsia subjects without alarm symptoms and 5.05% with alarm symptoms (p 0.04), as confirmed with biopsy. In a smaller study of 282 subjects, 8.27% presenting as dyspepsia had malignancy in 4.5% without alarm symptoms and 21.6% with alarm symptoms.[16] Malignant lesions were significantly higher in dyspepsia with alarm symptoms (p 0.013). Despite having a large study sample size, which may suggest existing disease trend and guide future research, this study was based in a tertiary care hospital setting which may not represent the whole population. In this study, the end point was endoscopic

diagnosis, more prospective studies are required to see the evolution of these lesions over time. To the author's knowledge this was the largest study assessing clinical and endoscopic profile of UGI bleed and dyspepsia in Indian subjects. Also, this was the largest study evaluating the relevance of alarm symptoms in Indian patients with dyspepsia. This study will have far-sighted implication to determine the need of UGI endoscopy in patients presenting with dyspepsia in resource limited country like India.

CONCLUSION

Portal hypertension related variceal bleed is the commonest etiology of UGI bleed in Indian patients. "Alarm symptoms" in dyspepsia, showed association with organic lesions on endoscopy. In such patients, with age more than 50years and long duration of symptomatology, endoscopy may help in early diagnosis of malignancy and reducing morbidity.

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