

INCIDENCE AND CLINICAL FEATURES OF PEPTIC ULCER DISEASE IN ACUTE UPPER GASTROINTESTINAL BLEEDING: -EXPERIENCE OF MOROCCAN UNIVERSITY HOSPITAL UNIT-

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ABSTRACT

Summary: Peptic ulcer disease (PUD) has been recognized as the leading cause of acute upper gastrointestinal bleeding (AUGIB). This study aims to report general features of bleeding peptic ulcers in patients who benefit of urgent endoscopy in our department after an acute upper gastrointestinal hemorrhage. **Results:** A total of 1809 patients were explored for acute upper gastrointestinal bleeding in our unit since 2003 to 2008. Gastroduodenal peptic ulcers were the most frequent diagnosed etiology. They present 38% of all reported causes of bleeding (n=527) (table I). 25% were located at duodenal mucosa (n= 347) and 13% were gastric ulcers (n=180). No esophageal ulcers were reported. Incidence of both duodenal and gastric ulcers decreases during the last years. **Conclusion:** In our department, incidence of bleeding peptic ulcer disease is decreasing but they continue to be the first cause of AUGIB.

SUMMARY

Acute upper gastrointestinal bleeding (AUGIB) is a common medical emergency related to significant rates of mortality and morbidity. Peptic ulcer disease (PUD) has been recognized as the leading cause of AUGIB [1]. Many studies have shown a decrease in their percentage certainly because of the increasing use of pump proton inhibitors and the eradication of *Helicobacter pylori* [1, 2]. Some authors suggest that, over 10 years, the proportion of patients taking proton-pump inhibitors rose sixfold [2]. However, PUD continues to be an important clinical issue because of prescription of non steroidal anti-inflammatory drugs [3]. This study aims to report general features of bleeding peptic ulcers in patients who benefit of urgent endoscopy in our department after an acute upper gastrointestinal hemorrhage.

PATIENTS AND METHODS

This study was conducted retrospectively in "Médecine C" Department at Ibn Sina Hospital in Rabat, Morocco. A consecutive series of patients who underwent an endoscopic examination after an acute upper gastrointestinal system bleeding between January 2003 and December 2008 were analyzed. Only patients over 15 years old with an endoscopic diagnosis of bleeding peptic ulcers were included. Other etiologies of gastrointestinal bleeding were excluded. Peptic ulcers were defined as deep lesions in the esophagus, stomach or duodenum with at least 5 mm long. Patients were initially managed in emergency department and then transferred to our endoscopic unit for an urgent gastro intestinal endoscopy. Considered Data were: age, gender, clinical presentation, hemodynamic status at admission, requirement of blood transfusion and medical history (cigarette smoking, alcohol consumption or previous ulcer, hyper portal pressure, drug use -especially acetylsalicylic acid-).

RESULTS

A total of 1809 patients were explored for acute upper gastrointestinal bleeding in our unit since 2003 to 2008. Gastroduodenal peptic ulcers were the most frequent diagnosed etiology (Table I). They present 38% of all reported causes of bleeding (n=527) (table I). 25% were located at duodenal mucosa (n= 347) and 13% were gastric ulcers (n=180). No esophageal ulcers were reported. Incidence of both duodenal and gastric ulcers decreases during the last years [Table II] (Fig. 1). Regarding duodenal ulcers, mean age of diagnosis was 45 years old [18- 87]. Male gender was prominent with 77% of all patients (n=269; sex-ratio= 3.3) (fig. 1). Gastrotoxic drugs use before the bleeding episode was reported in only 31% of patients. Duodenal ulcer was an isolated cause of bleeding in 55.7% of cases and associated to another lesion in 44.5% of patients (n=155) (Table III). The mean clinical symptom was Melena in 314 patients. Hematemesis was the reason of consultation in 261 patients and hemodynamic shock was found in 39 cases. Hemoglobin was less than 10g/dl in 242 patients; blood transfusion was indicated in 119 patients.

Gastric ulcers were retained as upper gastrointestinal bleeding etiology in 13% (n= 180) of patients. Mean age was 53 years old [17- 90]. Male gender was also prominent with sex-ratio: 2.3. Gastrotoxic use was reported in 35% of all patients. Incidence of gastric ulcers occurrence is less important during the last years ranging from 29% in 2003 to 16% in 2008 (Fig. 1). They were an isolated upper gastrointestinal bleeding etiology in 47% of patients (n=85), otherwise, associated

lesions were different (oesophagitis, esophageal varicose...) [Table IV]. Major clinical symptom was hematemesis in 85% of all patients. Melena were reported in 81% and 13% of patients had an hemodynamic shock. 126 patients had anemia with hemoglobin less than 10 g/dl. Fifty eight patients presented an hemoglobin less than 7g/dl which requires blood transfusion.

Medical history of cigarette smoking was reported in 21 patients with duodenal ulcers vs. 16 patients in gastric ulcers' group. Alcohol consumption was reported in 2 patients with gastric ulcers and in 4 patients with duodenal ulcers. Previous history of bleeding ulcer was reported in 72 patients with duodenal ulcers and in 28 patients of gastric ulcers population.

Table I: Total endoscopic findings in 1809 patients who benefited of urgent gastroscopy in our department between 2003 and 2008 [4].

	Number	%
Peptic ulcers	530	38
Gastritis and duodenitis	453	32.5
Esophageal varices	326	23.5
Esophagitis	255	18
Cardial varices	108	8
Gastric tumors	50	3.6
Hypertensive gastropathy	41	3
Mallory Weiss	15	1.1
Esophageal tumors	10	0.7
Gastric polyps	8	0.5
Dieulafoy ulcer	4	0.3
Angiodysplasia	4	0.3
Duodenal tumors	3	0.2
Hemobilia	2	0.07

Table II. Incidence per year of bleeding peptic ulcers in our endoscopy unit.

	2003	2004	2005	2006	2007	2008	Total
Duodenal ulcers	95 (27%)	33 (9%)	65 (19%)	79 (23%)	41(12%)	37 (10%)	350
Gastric ulcers	52 (29%)	13 (7%)	27(15%)	41(23%)	18 (10%)	29 (16%)	180

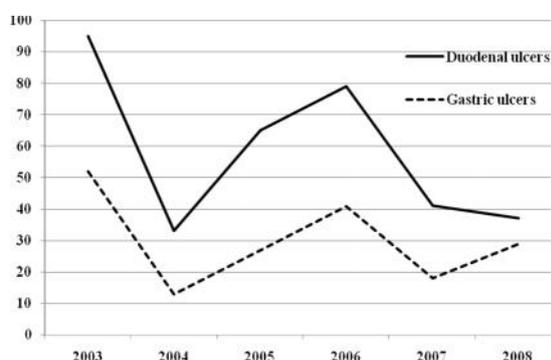


Fig. 1: Annual incidence of PUD in our endoscopic unit.

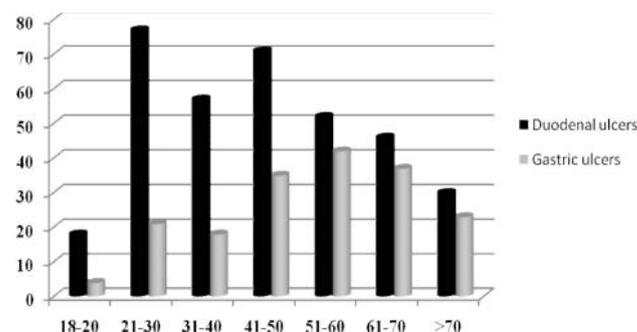


Fig.2: Distribution of duodenal and gastric ulcers according to patients' age.

Table III. Associated lesions found in endoscopic examination in gastric ulcers population.

Lesion	Number	%
Isolated gastric ulcer	85	47
Associated lesions :	95	53
*Gastritis and duodenitis	35	20
*Esophagitis	29	16
*Gastric ulcers	15	8.5
*Esophageal varices	15	8.5
*Gastric tumors	1	0.3

Table IV. Associated lesions found in endoscopic examination in duodenal ulcers population.

Lesion	Number	%
Isolated duodenal ulcer	195	55.7
Associated lesions :	155	44.3
*Gastritis and duodenitis	57	16
*Esophagitis	69	20
*Gastric ulcers	15	4
*Esophageal varices	13	4
*Gastric tumors	1	0.3

Table V. Clinical presentation:

	Gastric ulcers (%)	Duodenal ulcers (%)
Hematemesis	85%	89%
Melena	81%	74%
Hemodynamic shock	13%	11%
Anemia (Hemoglobin <10g/dl)	66%	36%
Blood transfusion requirement	20%	16%

COMMENT

Acute upper gastrointestinal bleeding (AUGIB) is a major public health problem despite advances in diagnosis modalities and introduction of new therapeutic approaches. Upper endoscopy is a capital time to precise bleeding source; it allows diagnosis of hemorrhage etiology and treatment. Peptic ulcers disease (PUD) represents the most common underlying cause of AUGIB [1, 5]. It affects 10% of the world population [3]. A review of recently published studies found annual incidence of ulcer haemorrhage of 19.4- 57 cases per 100.000 individuals [6-8]. In concordance with literature data, PUD was the first cause of AGIB in our series. The table VI compares our results to other series. In our patients, duodenal ulcers are prominent.

Table VI. Peptic ulcers in literature.

Series	Number	%
Tammaro (Italy) [9]	436	50
Abdul (England) [10]	121	30
Dursum (Turkey) [11]	1242	34
Ben Chaabane (Tunisia) [12]	874	38
C. H. Morales-Urbe [13]	464	41
Our series (A .Essaid, Morocco) (2003- 2008)	1809	38

The classic study of Rockall, with more than 4000 included patients, shows the same result (53% of duodenal ulcers vs. 35% of gastric ulcers) [13]. Incidence of bleeding peptic ulcers is decreasing according to our endoscopy unit (Fig.1). It's available for both duodenal and gastric ulcers. It corresponds to literature data and other series results [1, 10-12]. The decreasing incidence of PUD is explained by the large use of inhibitors protons pump and the global and increasing interest to the eradication of *Helicobacter pylori*. However, we mentioned already that PUD remains the first cause of AUGIB; this might be because of the increasing use of gastro toxic drugs especially non steroidal anti-inflammatory drugs (NSAIDs) and acetyl salicylic acid [4]. It's also known that the incidence of idiopathic PUD has increased [3]. In our series, the high incidence of gastric ulcers is shown between 40 and 70 years old which seems to be a period of increasing indications of NSAIDs for articular pain and rheumatologic diseases. Medical history of gastrototoxic use was similarly associated to gastric ulcers and duodenal (35% vs. 31%). Although some studies have demonstrated relation between smoking and ulcerogenesis [18], others have found that smoking by itself may not be much of a risk factor unless associated with *H. pylori* infection. Fiore found alcohol habit in 70% of cases having AUGIB [4, 5]. Other authors have supported also that alcohol consumption increases risk when associated with *Helicobacter pylori* infection, but it does not seem to be an independent risk factor, and even when coupled with *Helicobacter pylori*, the increase is modest [18, 19]. Those data are supported by the results of our series where the majority of our patients had a bleeding peptic ulcer without a history of alcohol consumption. Hematemesis were the main clinical manifestation in both duodenal and gastric ulcers. A concomitant Gastric and duodenal ulcer localization has been reported in 15% of patients. Most reported endoscopic associated lesions were gastritis, duodenitis and oesophagitis in both gastric and duodenal ulcers. This can be certainly explained by the impact of gastroesophageal reflux, which is a recognized causal agent of peptic ulcers.

CONCLUSION

According to our department series, the incidence of bleeding peptic ulcer disease is decreasing but they continue to be the first cause of acute upper gastrointestinal bleeding.

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