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Assessment of Severity of Upper Digestive Hemorrhage in Hepatogastroenterology Department of University Hospital Joseph Raseta Befelatanana Antananarivo

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Abstract - Upper gastrointestinal bleeding is one of main digestive emergencies and remains a major cause of morbidity and mortality. Eighty percent of acute HD are of high origin.
By this work, we document the epidemiological, clinico-biological aspects of upper gastrointestinal bleeding. This is a descriptive study of patients who presented upper gastrointestinal bleeding at Hepato-gastroenterology unit of Joseph Raseta Befelatanana Antananarivo (Madagascar) University Hospital during 5 months.
During this period, 31 patients had been admitted for high gastrointestinal bleeding. The average age of patients was 49.6 years. There were more men than women. Melena was the most common manifestation (n = 21, 67.7%). Ulcerative (32.3%, n = 10).and variceal bleeding (54.8%, n = 17) were predominant.
Optimal initial management of co-morbidities and haemorrhage with early endoscopic examination may improve the prognosis of upper gastrointestinal bleeding.

Keywords - Upper Gastrointestinal Bleeding; Melena; Variceal Bleeding; Ulcer; Digestive Endoscopy.

I. INTRODUCTION

Upper gastrointestinal bleeding (UGIB)is one of main digestive emergencies; they remain an important cause of morbidity and mortality. Eighty percent of acute HD are of high origin.

Annual incidence of UGIB in adults is around 100 to 150 episodes per 100,000 populations [1]. Epidemiological data on UGIB are rare in Madagascar [2].

A single-center study conducted between 2007 and 2009 in our unit found an admission frequency for gastrointestinal bleeding of 3.13% over 30 months [3]. Moreover, in Madagascar, no study on the management of UGIB has yet been conducted to our knowledge.

Acute UGIB is a therapeutic emergency requiring multidisciplinary management involving gastroenterologists, emergency physicians, anesthetists, radiologists and surgeons. Management includes symptomatic resuscitation measures and etiological measures including medical and interventional treatment.

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Our aim was to describe the management and epidemiological and clinical aspects of upper gastrointestinal bleeding seen in our unit.

II. METHOD

We performed single-center, descriptive, cross-sectional prospective study at Hepato-gastroenterology unit of Joseph Raseta Befelatanana Antananarivo Madagascar University Hospital. Over a period of 5 months, we analyzed records of all hospitalized patients in our unit and we included in our study patients admitted for upper gastrointestinal bleeding whatever the manifestation: melena or hematemesis. Patients whose clinical parameters could not be assessed as well as patients who were unable to complete all the necessary examinations to assess the severity were excluded; in addition, all patients who refused to participate were systematically excluded. Sociodemographic characteristics (age, gender) as well as the clinico-biological and endoscopic parameters and etiologies that make it possible to establish the gravity evaluation scores for digestive hemorrhages, in particular the value of blood urea, hemoglobin or pressure. Systolic blood pressure was evaluated. We used Rockall scores and the Glasgow-Blatchford score to assess the severity of gastrointestinal bleeding.

III. RESULTS

During this period, 31 patients were able to meet the inclusion criteria of our study. Ratio between male and female was 1.06 (male = 16, female = 15). The majority of patients admitted for upper gastrointestinal bleeding were between 35 and 65 years of age (n = 19, 61.3%). The average age was 49.6 years with extremes of 16 and 92 years. In the majority of cases, melena was the most common manifestation of gastrointestinal bleeding (n = 21, 67.7%). Hematemesis accounted for 32,3% of cases (n = 9). It was a first episode in 67.7% of cases (n = 21), a second episode for 22.6% (n = 7) and more than 3 episodes for 3 patients. Table 1 summarizes clinical data and Table 2 summarizes biological and endoscopic data. We have shown in Figure 1 the main etiologies.

Glasgow Blatchford's severity score was> 8 for 19 patients (61.3%) and Rockall (<8) in 96.8% of cases.

Table 1 : Clinical data

CLINICAL PARAMETERS		Number	Percentage
hematemesis		21	67,7%
Melena		10	32,3%
Digestive history	Epigastric	14	45,2%
	Liver disease	3	9,7%
Hemorrhagic history	1st episode	21	67,7%
	2nd episode	7	22,6%
	≥3 épisodes	3	9,7%
Taking gastrotoxic products or medication	Tobacco	8	25,8%
	NSAIDs	23	74,2%
Cardiac frequency	<100 bpm	10	32,3%

	>100 bpm	21	67,7%
systolic blood pressure (mmHg)	100 – 109	6	19,4%
	90 – 100	3	9,7%
	<90	1	3,2%
Tissue hypoperfusion		5	16,1%
comorbidity	Renal failure	1	3,2%
	Hepatic insufficiency	1	3,2%
	Heart failure	3	9,7%
	Coronary artery disease	1	3,2%
	Cancer	1	3,2%

Table 2 : Biological and endoscopic data

BIOLOGICAL PARAMETERS AND ENDOSCOPIC		Number	Percentage
Hemoglobin level (g / dL)	12 – 13	2	6,5%
	10 – 12	0	0,0%
	<10	20	64,5%
Blood Urea (mmol / L)	6,5 – 8	3	9,7%
	8 – 10	2	6,5%
	10 – 25	5	16,1%
Endoscopic signs		20	61,5%

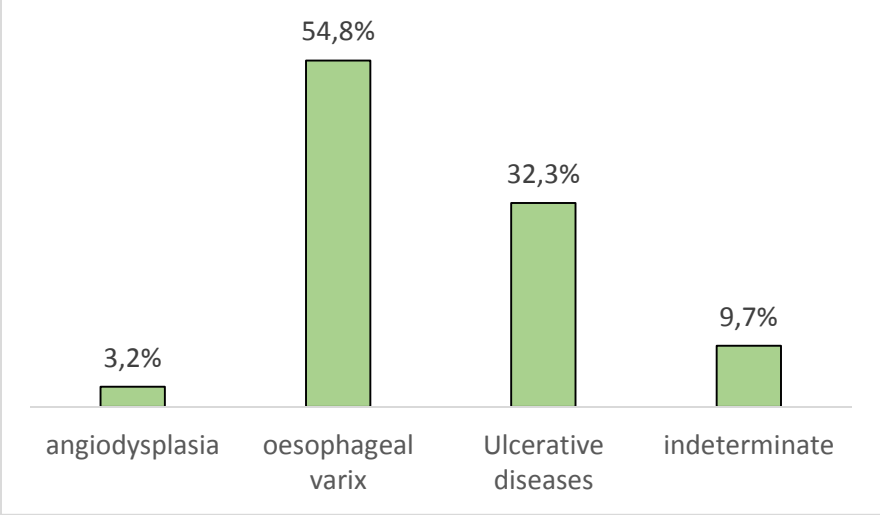

Figure 1 : Etiologies of upper gastrointestinal bleeding

IV. DISCUSSION

Male predominance, found in our work, confirms the high incidence of UGIB in men compared to women described in epidemiological studies [4]. This male predominance may be related to the greater frequency of UGIBA-causing conditions in the male sex.

In UGIB series reported in Europe or North America, the incidence of UGIB increases in the elderly [6, 7, 10]. For example, patients aged 65 and over accounted for 65.2% of cases [5], compared with only 16.1% in our series. The high rate of elderly patients in Western countries reflects the age pyramid of the general population in these countries [6].

The most frequent causal lesions identified in our series remain rupture of oesophageal varices (54.8%, n = 17) and ulcerative diseases (32.3%, n = 10), which is consistent with data from the literature. Indeed, all studies agree on this point [7]. The same observation was found in many studies, both African and Western.

In french series, gastrointestinal bleeding by rupture of varices represents 3 to 23% of the causes of upper gastrointestinal bleeding. High percentage of oesophageal varices rupture in French epidemiological studies concerning UGIB is probably related to the large number of chronic liver diseases of alcoholic origin [6]. In Africa, Helicobacter pylori infection is dominant in the etiology of peptic ulcers [3]. Although Helicobacter pylori research was not performed in our study, it is likely that most diagnosed ulcers are secondary to Helicobacter pylori infection. By contrast, in western countries, NSAIDs are the most providers of UGD [8].

In 9.7% of cases (n = 3), the causes of gastrointestinal bleeding are gastritis. This can be explained by self-medication (NSAIDs, indigenous potions) or stress and by a scarcity of hospital attendance of our populations added to a low socio-economic standard of living. But beyond this explanation, this result shows that the detection of occult bleeding in patients treated with NSAIDs becomes necessary, especially in the elderly in whom the prescription of these drugs under surveillance is required.

Stratification of patients according to their severity on arrival at the hospital is essential in order to adapt the therapeutic strategy accordingly.

Regarding hemodynamic repercussions, in our series, 67% (n = 21) of patients had tachycardia. The average heart rate was 84.6 bpm with a maximum of 118 bpm. Ten patients (32.2%) had a systolic blood pressure of less than 110 mm Hg. Mean PAS was 113.9 mm Hg with a minimum of 80 mm Hg and a maximum of 160 mm Hg.

Most patients (64.5%, n = 20) had a hemoglobin level of less than 10 g / dL. The average hemoglobin level was 8.9 g / dL. Minimum hemoglobin level was 2.1 g / dL.

In UGIB, existence of a tachycardia and / or hypotension on admission, and a hemoglobin level of less than 8 g / dL are predictive of severe haemorrhage and requires management by urgency [9].

Glasgow-Blatchford score uses clinico-biological parameters to predict the need for an intervention

(hospitalization, transfusion, surgery) and the risk of haemorrhagic recurrence [10]. A score of Glasgow Blatchford> 8 was found in 61.3% (n = 19) of the cases. Maximum score was 14. The average score was 8.8. These data are similar to those reported by the literature with an average score of 9 [11]. All these patients had been hospitalized, 16 patients (51.6%) had received a blood transfusion.

Rockall score is a composite score combining clinical-biological parameters collected before endoscopy and data from the endoscopy to predict mortality [31]. A Rockall score greater than 8 indicates a high risk of death. Only one patient had a Rockall score> 8. The average score was 2.5. Maximum score was 12. Malagasy study conducted in 2011 on a series of 185 patients had found an average score of 1, but this study did not include haemorrhages of varicose origin [11].

V. CONCLUSION

Upper gastrointestinal bleeding is one of main digestive emergencies and remains a major cause of morbidity and mortality. UGIB mortality rate remains relatively high in Madagascar.

Melena with or without hematemesis is the most common bleeding pattern. Consumption of toxic substances such as alcohol or tobacco as well as gastrotoxic drugs is a risk factor for the occurrence of UGIB. In addition, the most common causative lesions are rupture of oesophageal varices and ulcerative pathologies.

Using prognostic scores for upper gastrointestinal bleeding is necessary especially in the evaluation of the risk of haemorrhagic recurrence and mortality.

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