Digestive Hemorrhages at Tengandogo University Hospital : Sociodemographic, Diagnostic, and Outcome Aspects

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ABSTRACT

Introduction: *Digestive hemorrhages represent a major gastroenterological emergency. In resource-limited settings, their diagnostic evaluation and management remain challenging. The aim of this study was to describe the sociodemographic, diagnostic, and outcome characteristics of digestive hemorrhages at the CHU of Tengandogo (CHUT) in Ouagadougou.*

Materials and Methods: *This was a cross-sectional study with retrospective data collection based on the records of patients admitted for digestive hemorrhage at CHUT. Patients aged 15 years and older who were admitted for digestive hemorrhage between April 15, 2013, and September 14, 2023, were included. Sociodemographic, clinical, and endoscopic data were collected.*

Results: *Among 284 recorded cases, 215 were included. The mean age was 51.32 ± 18.28 years, with a male predominance (77.2%); male-to-female ratio = 3.39). Upper gastrointestinal bleeding accounted for 63.3% (n = 136) and lower gastrointestinal bleeding for 36.7% (n = 79). Hematemesis (37.2%) and hematochezia (43.3%) were the main forms of presentation. Upper endoscopy primarily identified gastric ulcers (30.2%), duodenal ulcers (18.4%), and erosive gastropathy (22.1%). In lower endoscopy, hemorrhoids were predominant (57.8%). The mortality rate was 4.65%.*

Conclusion: *Gastrointestinal bleeding mainly affects middle-aged adults, with a male predominance. The causes are dominated by gastroduodenal ulcers and hemorrhoids. These results reflect the etiologic profile observed in other resource-limited settings and highlight the importance of digestive endoscopy as a key diagnostic tool. A better understanding of the distribution of lesions responsible for gastrointestinal bleeding can guide prevention strategies and the prioritization of healthcare resources in similar contexts.*

Keywords

Gastrointestinal bleeding, Endoscopy, Gastroduodenal ulcer, Hemorrhoids, Burkina.

Introduction

Digestive haemorrhage is a major cause of morbidity and mortality worldwide. Their clinical signs vary according to the site and extent of the bleeding [1]. Depending on their anatomical location, they are classified as upper gastrointestinal haemorrhages (HDH), located upstream of Treitz's angle, and lower gastrointestinal haemorrhages (HDB), located downstream [2,3]. The incidence of HDH is estimated at around 50-150 cases per 100,000 person-years, while the incidence of HDB is slightly lower but still clinically significant [4].

Several risk factors, including the use of gastro-toxic products, chronic alcoholism and a history of digestive haemorrhage, influence the occurrence of these events. Diagnosis relies heavily on digestive endoscopy, which allows accurate assessment of lesions and guides therapeutic management [5].

Despite the progress made, mortality from digestive haemorrhage remains between 5 and 10% depending on the series, particularly in the elderly and those with co-morbidities [6,7]. In sub-Saharan Africa, data remain limited and heterogeneous, with specific epidemiological features linked to the social and health context, access to healthcare and the high prevalence of certain liver diseases [8,9]. In Burkina Faso, few studies have exhaustively described digestive haemorrhage over a long period.

The aim of our work was to describe the sociodemographic, diagnostic and evolutionary aspects of digestive haemorrhage at the Tengandogo University Hospital (CHUT) in Ouagadougou.

Materials and Methods

This was a cross-sectional study with retrospective data collection, conducted in the hepato-gastroenterology unit of CHUT covering a period of more than 10 years, from 15 April 2013 to 14 September 2023. Patients over 15 years of age who were admitted for digestive haemorrhage and had a complete and usable file were included. The variables collected included sociodemographic, clinical, endoscopic and outcome data. Qualitative variables were described in terms of numbers and percentages, and qualitative variables in terms of means ± Data confidentiality and patient anonymity were respected. Authorisation to collect data was obtained from the general management.

Results

Socio-demographic characteristics

During the study period, 284 patients were admitted for digestive haemorrhage. After exclusion of 69 incomplete files, 215 patients were included in the analysis, giving an inclusion rate of 75.7%.

The mean age of the patients was 51.32 ± 18.28 years, with extremes ranging from 15 to 100 years. The most common age group was 35-45 years (25.1%), followed by 65-75 years (20.9%), reflecting a high incidence in middle-aged and older adults (Figure 1).
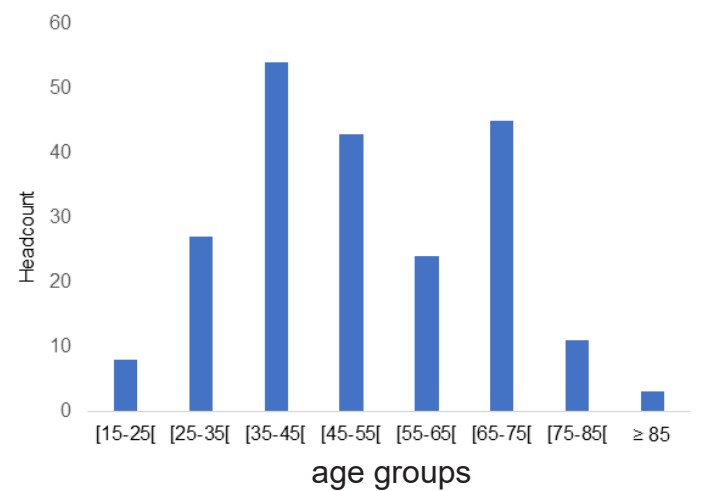
Graph 1: Distribution of patients who experienced gastrointestinal bleeding at Tengandogo University Hospital by age group.

There was a male predominance, with 166 men (77.2% of cases) and 49 women (22.8%). The sex ratio was 3.39.

Diagnostic aspects

Patient history

A history of digestive haemorrhage was found in 142 patients, representing the most frequently reported risk factor. The use of gastro-toxic products was noted in 71 patients (Table 1).

Table 1: Distribution of patients by history.

Past history	Number (n =215)	Percentage (%)
Digestive haemorrhage	142	66.04
Gastro-toxic products	71	33.02
Chronic alcoholism	30	13.95
Herbal medicine	17	7.91
Tobacco	12	5.58
Haemorrhoidal disease	11	5.12
Antiaggregants/anticoagulants	2	0.83

#### Reasons for consultation

Haematemesis was the main reason for consultation (43.25%), followed by haematemesis (37.21%). (Table 2).

Table 2: Breakdown of patients by reason for admission.

Reason for consultation	Number (n =215)	Percentage (%)
Haematemesis	93	43.25
Haematemesis	80	37.21
Melena	16	7.44
Haematemesis + melena	10	4.65
Anaemia	7	3.25
Haematemesis + melena	4	1.86
Melena + anaemia	3	1.39
Haemorrhagic shock	2	0.93

Endoscopic aspects

Upper GI endoscopy was performed in 136 patients, corresponding to 63.3% of the cases included, while lower GI endoscopy was performed in 83 patients. The time taken to perform upper endoscopy was between 24 and 48 hours in 41.2% of cases (Graph 2).
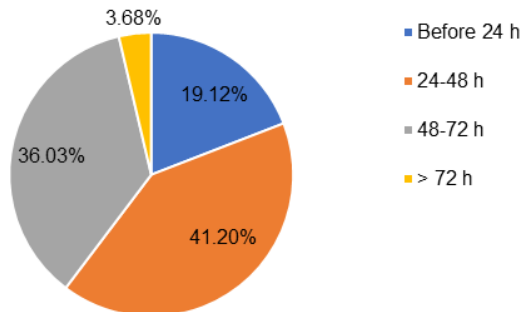
Graph 2: Distribution of patients according to time taken to perform upper digestive endoscopy.

Upper GI endoscopy revealed 187 lesions. Gastric ulcers were the leading cause of upper GI haemorrhage (30.15%), followed by erosive gastropathy (22.06%) and duodenal ulcers (18.38%). Oesophageal varices were found in 13.97% of cases (Table 3).

Table 3: Distribution of patients according to lesions at upper gastrointestinal endoscopy.

Lesion	Number n =187	Percentage (%)
Esophageal varices	19	13.97
Duodenal ulcers	25	18.38
Gastric ulcers	41	30.15
Erosive gastropathies	30	22.06
Erythematous gastropathy	14	10.29
Congestive gastropathy	10	7.35
Other gastropathies*	4	2.94
Peptic esophagitis	11	8.09
Caustic esophagitis	4	2.94
Hiatal hernia	6	4.41
Esophageal mycosis	8	5.88
Erosive duodenopathy	10	7.35
Other duodenopathies**	5	3.68

* nodular, atrophic, petechial, purpuric gastropathies

** : erythematous, congestive duodenopathies

With regard to lower digestive haemorrhage, haemorrhoids were by far the main aetiology (57.83%). No lesion was found in 24 patients (28.92%) (Table 4).

Evolution

The majority of patients had a favourable outcome, with 86.5% being discharged (Table 5).

Table 4: Distribution of patients according to lesions found at lower digestive endoscopy.

Lesions	Number n =187	Percentage (%)
Haemorrhoids	48	57.83
Anal fissures	6	7.23
Rectocolic haemorrhage	2	2.41
Colonic tumour	2	2.41
Anal tumour	1	1.2

Table 5: Distribution of patients according to mode of discharge.

Type of discharge	Number n =187	Percentage (%)
Discharge	186	86.5
Discharge against medical advice	19	8.84
Death	10	4.65

Discussion
Limitations of the study

This study has certain limitations inherent in its cross-sectional, retrospective nature. The quality of the data depended on the completeness of the medical records, which led to the exclusion of 69 patients (24.3%), possibly introducing a selection bias. The absence of validated prognostic scores (Glasgow-Blatchford, Rockall, AIMS65) limits standardised assessment of severity and risk of progression. Furthermore, as the study was monocentric, the results cannot be generalised to the entire population of Burkina Faso. Finally, the absence of exploration of the small intestine in patients with no identifiable endoscopic lesion may underestimate certain aetiologies.

Socio-demographic profile of patients

Our study shows a marked male predominance, with a sex ratio of 3.39. This male predominance is widely described in the African and international literature [6,10-12]. This male predominance is widely described in African and international literature [6,10-12]. It is partly explained by the fact that men are more frequently exposed to risk factors such as alcoholism, smoking and self-medication with gastro-toxic products, practices that are still widespread in sub-Saharan Africa [13].

The mean age of 51.3 years is comparable to that reported in several recent African series, where the mean age of patients presenting with digestive haemorrhage varies between 48 and 55 years [9]. The high representation of patients in the 35-45 and 65-75 age groups reflects a dual vulnerability: on the one hand, active adults exposed to NSAIDs and toxic habits, and on the other, elderly subjects with digestive and hepatic co-morbidities [14].

Diagnostic aspects
History

A history of gastrointestinal haemorrhage was found in almost two-thirds of patients, suggesting a high risk of recurrence, which is well documented in the literature [15]. The use of gastro-toxic products (33%) was a major factor, confirming the central role of NSAIDs and uncontrolled traditional treatments in the genesis of

digestive mucosal lesions [16].

Chronic alcoholism, found in 14% of patients, is a major indirect risk factor via cirrhosis and portal hypertension, favouring the development of oesophageal varices [17]. The low proportion of patients on antiaggregants or anticoagulants contrasts with Western series, reflecting differences in epidemiological profiles and access to cardiovascular treatments [1].

Clinical presentation
Haematemesis and haematemesis were the main reasons for admission, reflecting the significant coexistence of upper and lower digestive haemorrhage. This distribution is comparable to that reported in several African studies, where externalized forms dominate the reasons for hospitalisation [9]. The significant proportion of patients admitted for anaemia highlights the sometimes insidious nature of chronic GI haemorrhage [18].

Endoscopic results
Gastric ulcers were the main cause of upper GI haemorrhage (30.1%), followed by erosive gastropathy and duodenal ulcers. These results are consistent with current trends showing the persistence of non-variceal ulcerative haemorrhage as a major cause, particularly in countries with limited resources [19].

Oesophageal varices accounted for 14% of lesions, a proportion comparable to African series where liver cirrhosis is still common [19]. However, this proportion is lower than that observed in certain regions where chronic liver disease is highly endemic, suggesting regional heterogeneity [6].

As regards lower GI haemorrhage, the predominance of haemorrhoids (57.8%) is in line with the majority of African and Asian studies, where benign anorectal pathologies are the main aetiology [20]. The absence of endoscopic lesions in almost 29% of patients highlights the limitations of standard colonoscopy and the need, in some cases, to perform other complementary examinations (videocapsule, enteroscopy) [21].

Outcome
The majority of patients had a favourable outcome, with an outcome rate of 86.5%. The in-hospital mortality rate of 4.65% is relatively low compared with the rates reported in some African and international series, which vary between 5 and 10% [22,23]. The mortality rate observed in this study should be interpreted with caution. A significant proportion of patients (8.84%) were discharged against medical advice, a frequent occurrence in our practice. These discharges are often due to significant financial constraints, especially in a context where the majority of patients have no health insurance cover [23]. It is also important to emphasise that the cost of care at CHUT is higher than at other Ouagadougou teaching hospitals, which may prompt some patients to terminate their hospitalisation prematurely, particularly those with a poor prognosis or requiring prolonged care. These economic and organisational factors probably contribute to an underestimation of the actual mortality rate and reflect the impact of socio-economic determinants on the clinical outcomes of digestive haemorrhage in our context [22,23].

Conclusion
Digestive haemorrhage mainly affects middle-aged and elderly adults, with a clear male predominance. Digestive endoscopy remains essential for a diagnosis of the aetiology, although access constraints and sometimes prolonged delays limit its effectiveness in our context.

The mortality rate observed (4.65%) may be underestimated, given the number of patients discharged against medical advice, often for economic reasons or because their prognosis is considered to be poor, in the almost total absence of health insurance. This situation highlights the impact of socio-economic factors on the prognosis and management of digestive emergencies in Burkina Faso. Furthermore, the setting up of local multicentre prospective studies, incorporating post-discharge follow-up and validated prognostic scores, would make it possible to better quantify actual mortality and optimise management protocols for digestive haemorrhage in Burkina Faso.

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