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Overview of Digestive Pathologies in Endoscopy Center at Bogodogo Teaching Hospital (CHU-B) during Two Years 2022-2023

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Abstract

Background: Digestive pathology is rich and diverse in Burkina Faso; however, it is often insufficiently described due to the unavailability of endoscopy rooms in all regions of the country, especially in rural areas, as well as the frequent recourse to self-medication and traditional practitioners. Endoscopic evaluation is, however, considered the gold standard, allowing not only the visualization of lesions but also the performance of biopsies for diagnostic purposes. **Objective:** To provide an overview of digestive disorders in the Endoscopy Department at CHU Bogodogo from January 1, 2022 to December 31, 2023. **Methods and Patients:** This was a retrospective cross-sectional descriptive study with data collection during a period of two years from January 1, 2022 to December 31, 2023 in the Endoscopy Department of the Centre Hospitalier Universitaire Bogodogo in Ouagadougou, Burkina Faso. **Results:** We recorded 936 cases of digestive endoscopy, including 870 cases of upper GI fibroscopy (93% of all endoscopies), 34 cases of colonoscopy (3.6% of all endoscopies), 30 cases of anurectoscopy and 2 cases of rectosigmoidoscopy. The mean age of patients was 45.6 years, with extremes of 4 and 92 years. Females predominated in 53.3% of cases. The sex ratio was 0.9. Housewives accounted for 34.4% of all patients. Epigastralgia and digestive hematemesis were the indications for digestive endoscopy in 40.5% and 8.3% of all endoscopies, respectively. Esophagitis and hiatal hernia were found at

upper digestive, respectively, in 54.1% and 29.7% of all endoscopies. Haemorrhoidal disease was encountered at lower digestive, with frequencies of 23 cases (2.5%) respectively. A suspected malignant tumor was found in seven (7) cases (0.8%) after upper endoscopy. **Conclusion:** Our study provided an overview of upper and lower digestive pathologies diagnosed with the aid of digestive endoscopy and confirmed the variety of these conditions.

Keywords

Upper and Lower Digestive Pathology, Epidemiology, Diagnosis, Endoscopy, Burkina Faso

1. Introduction

Gastrointestinal endoscopy is an essential tool, providing a direct and effective way to diagnose, monitor, and treat a wide range of gastrointestinal disorders. Its effectiveness and safety make it a method of choice for many and varied clinical indications [1] [2].

In several centers in Asia, America, Europe and even Africa, therapeutic and interventional endoscopy are available. Technological innovation and the application of artificial intelligence are developing and improving [3]. In France, between 2014 and 2023, 29 million digestive endoscopy procedures were performed thanks to universal health coverage [4]. In sub-Saharan Africa, data on gastrointestinal endoscopy are limited. In Burkina Faso, several studies have focused on digestive endoscopy, but they have often focused on upper or lower endoscopy [5]-[8]. The goal was to explore the different pathologies encountered during digestive endoscopy in a reference center.

Endoscopic diagnostic methods allow the lumen and mucosa of the digestive tract to be directly visualized [1] [2]. The objective of this study was to provide an overview of gastrointestinal diseases in the endoscopy department of Bogodogo Teaching Hospital (CHU-B).

2. Methodology

This was a retrospective cross-sectional descriptive study. Data collection was over a 2-year period from January 1st, 2022 to December 31st, 2023.

The study population was composed of all patients who had undergone a digestive endoscopy at the CHU-Bogodogo during the study period.

All patients who had undergone gastrointestinal endoscopy for a digestive condition in the endoscopy unit and whose endoscopy reports were available and usable were included in the study. Histopathological analyses were not in focus. Cases of refusals, difficult intubation, incomplete examinations and those impossible related to unstable hemodynamic status were not concerned.

Data were collected using an anonymous questionnaire with the characteristics:

- of the prescriber: qualification and Health Facility.

- of the patient: age, sex (male or female), profession (private employee, public employee, farmer, housewives, merchants and students).
- endoscopy: indications, types and results (normal or diagnosed pathology). Two types of digestive endoscopy (DE) were performed: upper endoscopy (UE or gastroscopy) and lower endoscopy (LE: colonoscopy, rectoscopy, anoscopy). One or more pathologies could be found in the same patient. For each pathology diagnosed, we recorded the number of cases. Depending on the pathology, its limited or generalized location and its presentation (character or grade) were noted.

Data collection

The sample size for frequency in the population was calculated in OpenEpi® software [9] using the equation sample size n = [DEFF*Np(1 − p)]/[d²/ $Z^2_{1-a/2}$ *(N − 1) + p*(1 − p)]. We fixed the population size for finite population correction factor (N) at 1,000,000; hypothesized % frequency of outcome factor in the population (p) at 50% ± 5%; confidence limits as % of 100 (absolute ± %) (d) at 5% and design effect (for cluster surveys—DEFF) at 1. The calculated size was 664 at the 99% confidence level. To account for missing data, the size has been increased by 40%. The objective was therefore to reach 930 for the minimum sample.

Data were collected using an individual collection sheet. The register of digestive endoscopies performed served as a source of information. All endoscopy reports from the study period were included consecutively, and no records excluded due to refusal, incomplete examination, or missing data are indicated. Then, data was captured from koboCollect® electronic forms and deployed on the KoboToolbox® platform. The database of the collection obtained has been imported into the Stata® 16.0 software for analysis. For qualitative variables, number (N) and/or percentage (%) were calculated. For the quantitative variable (age in particular), the mean, the extremes (minimum and maximum) were calculated. Patients were grouped by decade of age group and the age groups comprising at least 50% of the patients were determined.

The anonymity of the collection sheets (serial number instead of patient identifiers) and the confidentiality of the information were respected. The study was done in accordance with the Declaration of Helsinki, the regulations of Burkina Faso and in line with international guidelines. Authorization from the institutional ethics committee of the Bogodogo University Hospital Center has been obtained.

3. Results

3.1. Frequency

We collected 936 cases of gastrointestinal endoscopies performed, as follows: 870 UE (93% of all endoscopies) and 66 LE (7% of all endoscopies). The LEs were distributed as follows: 34 colonoscopies (3.6%), 30 anorectoscopies (3.2%) and 2 rectoscopies (0.2%).

Age was noted in 934 cases. The mean age of the patients was 45.58 years with extremes of 4 and 92 years. The age group of [30 - 60[years accounted for 53.11% of

cases. Sex was noted in 929 cases. Females accounted for 53.3% with a sex ratio (male/female) of 0.9. The mean age for females was 44.9 years and 46.4 years for males.

Occupation was noted in 919 cases. The distribution by occupation was as follows: housewives (34.4%), farmers (17.8%), private sector employees (17.3%), public sector employees (15.4%), merchants (8.9%) and students (6.1%).

3.2. Prescriber Qualification and Health Facilities

The prescriber's qualification was noted in 917 cases. The distribution was as follows: general practitioner (76.3%), internist (11.2%), surgeon (3.2%), cardiologist (2%), gynecologist (1.4%), nephrologist (1.3%), rheumatologist (1.3%), paramedic in particular nurse (1.2%), gastroenterologist (1.1%) and pediatrician (1%).

The prescriber's health facility was identifiable in 929 cases. The distribution was as follows: CHU-B (79%), private clinics or polyclinics (10.8%), regional medical centers outside of Ouagadougou (5.1%), other university hospitals (3.2%), military health services (1.2%), primary care services (0.8%). Among the 5.1% of regional centers, 4.2% were public and 1% were private.

3.3. Indications for Endoscopy

The indication of endoscopy was noted in all cases. Epigastralgia was the most frequent indication in 40.5% of all endoscopies. Table 1 shows the distribution of patients according to indication of all endoscopies.

3.4. Result of the Endoscopic Examination

Results of endoscopy were noted in all cases (N = 936). Endoscopies were normal for 70 patients (7.5% of all endoscopies). One or more pathologies were found in the same patient. So, one patient could contribute more than one diagnosis. The distribution of the pathologies of all endoscopies was as follows: esophagitis (54.1%), hiatal hernia (29.7%), gastropathy (26.2%), gastric or bulbar ulcer (15%), esophageal mycosis (9.5%), signs of portal hypertension including esophageal varices (portal hypertension: 6.8%), gastroparesis (2.6%), hemorrhoidal disease (2.5%), antrobulbar sessile polyp (1.4%), gastrointestinal candidiasis (1.2%), antropyloric or esophageal stenosis (1.1%), erosive bulboduodenopathy (1%), oesogastric suspected malignant tumor (0.8%), bowel disorders (0.8%), long colon (0.2%).

UE was normal for 45/870 patients (5.2% of upper endoscopies only). The distribution in the UE was as follows: peptic esophagitis (506 cases), gastropathy (399 cases: 204 in the body and 195 in the antrum), hiatal hernia (278 cases), gastric or bulbar ulcer (140 cases), esophageal mycosis (96 cases), esophageal varice (64 cases), gastroparesis (24 cases), antrobulbar sessile polyp (14 cases), antropyloric or esophageal stenosis (10 cases), erosive duodenopathy (9 cases) and oesogastric suspected malignant tumor (7 cases).

LE was normal for 25/66 patients (37.9% of lower endoscopies only). The distribution in the LE was as follows: hemorrhoidal disease (23 cases), bowel disorders (16 cases) and long colon (2 cases). No case of suspected malignant tumors.

Table 1. Distribution of patients according to indication of all endoscopies.

Indications	Number (N = 936)	Percentage (%)
Epigastralgia	379	40.5
Hematemesis	78	8.3
Vomiting	51	5.5
Reflux esophagitis (GERD)	51	5.5
Portal hypertension (esophageal varices)	51	5.5
Hematochezia	44	4.7
Ulcer syndrome	40	4.3
Other abdominal pain	38	4.1
Melena	34	3.6
Dysphagia	25	2.7
Hiccups	19	2
Transit disorder	16	1.7
Dyspepsia	15	1.6
Anemia	13	1.4
Ingestion of foreign bodies	10	1.1
Proctalgia	9	1
Abdominal mass	8	0.8
Odynophagia	7	0.7
Anorexia	6	0.6
Weight loss	6	0.6
Antropyloric stenosis	5	0.5
Halitosis	5	0.5
Ascites	4	0.4
Diverticulosis	4	0.4
Belching	3	0.3
Hemorrhoidal disease	3	0.3
Nausea	3	0.3
wall thickening (duodenal and gastric)	2	0.2
AEG	2	0.2
Other indications*	5	0.5
Total	**936**	**100**

Other indications*: Chronic pharyngitis, anal pruritus, intestinal tuberculosis, cecal tumor control, esophageal mass.

3.5. Esophageal Disorders

Esophagitis

Five hundred and six (506) cases of esophagitis (54.1% of all endoscopies) were found in this series. The mean age was 44.8 years with extremes of 10 years and 92 years. The age groups of [20 - 50[accounted for 57.7% of cases. Females accounted for 58.89% with a sex ratio of 0.7. The distribution by occupation (N = 492) was as follows: housewives (35%), private sector employees (17.3%), farmers (13.4%), public sector employees (13.2%), students (13%) and merchants (8.1%).

Epigastralgia was the most common indication (66.4% of esophagitis). Other indications of esophagitis were: hematemesis (5.5%), abdominal pain (4.2%), gastroesophageal reflux disease (GERD: 4.2%), gastric or bulbar ulcer (4%), dysphagia (3.6%), pyrosis (3%), melena (2.6%), hiccups (2%), portal hypertension (2%), dyspepsia (1.4%), odynophagia (1.2%), halitosis (1%), Biermer's disease (1%), anorexia (1%), esophageal mycosis (1%), anemia (0.8%), pharyngitis (0.8%), weight loss (0.6%), foreign body ingestion (0.6%), nausea (0.4%), belching (0.4%), sensation of esophageal EC (0.39%) and other indications (1.2%: spice intolerance, esophageal lesion, epigastric mass, gastroparesis, chronic rhinorrhea, gastritis).

One or more esophagitis was found in the same patient. There were 450 cases of peptic esophagitis (88.9% of esophagitis), 96 cases of fungal esophagitis (19% of esophagitis), and 2 cases of caustic esophagitis (0.4%). According to the Savary Miller classification, the distribution of peptic esophagitis cases was: Grade I (88.4%), Grade II (9.8%), Grade III (1.6%) and Grade IV (0.2%). No Grade V.

Hiatal hernias

Two hundred and seventy-eight (278) cases of hiatal hernias (29.7% of all endoscopies) were found in this series.

The mean age of patients with hiatal hernias was 46.2 years with extremes of 4 years and 92 years. The age group of [20 - 50[included in 56.1% of cases. Females accounted for 57.19% with a sex ratio of 0.7.

The distribution by occupation of patients with hiatal hernias was as follows: housewives (36%), private sector employee (16.3%), farmer (15.5%), public employee (13.4%), students (9.8%) and merchants (9%).

Epigastralgia was the most frequent indication (65.8% of hiatal hernias). Other indications of hiatal hernias were: upper gastrointestinal bleeding (7.9%), gastric or bulbar ulcer (7.2%), vomiting (4.7%), GERD (5%), portal hypertension (5.4%), lower gastrointestinal bleeding (2.2%), pyrosis (2.2%), hiccups (2.2%), dyspepsia (1.4%), odynophagia (1.4%), anorexia (1.8%), Biermer's disease (0.7%), esophageal mycosis (0.7%), anemia (0.7%), foreign body ingestion (FBI) sensation (0.7%), halitosis (0.7%) and other indications (3.6%): nausea, pharyngitis, chronic rhinorrhea, ingestion of caustic, esophageal lesion, pyloric stenosis, esophageal stenosis, gastritis, weight loss, assessment of chronic pharyngo-laryngitis).

Small to medium volume hernia for 80.6% of hiatal hernias and a large volume for 19.4%.

Signs of portal hypertension including esophageal varices (portal hypertension)

Sixty-four (64) cases of portal hypertension (6.8% of all endoscopies) were found in this series. The mean age of portal hypertension was 53.2 years with extremes of 18 years and 86 years. The age group of [30 - 60[accounted for 57.81%. Males accounted for 70.31% with a sex ratio of 2.4. The distribution by occupation was as follows: farmers (43.8%), housewives (23.4%), private sector employees (20.3%), public sector employees (7.8%), merchants (3.1%) and students (1.6%).

Portal hypertension suspicion (39.8% of all endoscopies) was the most common indication. Other indications of portal hypertension were: hematemesis (14%), epigastralgia (10.8%), melena (3.2%), abdominal pain (2.2%), gastric or bulbar ulcer (2.2%), vomiting (2.2%), ascites (2.2%) and other indications (4.3%: anemia, hiccups, esophageal injury, pyrosis). The distribution according grades of esophageal varices was: Grade I (39%), Grade II (25%) and Grade III (36%).

3.6. Gastric Disorders

Gastropathies

Two hundred-forty-five (245) cases of gastropathy (26.2% of all endoscopies) were found in this series.

The mean age of patients with gastropathy was 44.8 years with extremes of 10 years and 92 years. The age group of [30 - 60[accounted for 52.6%. Females accounted for 51.8% with a sex ratio of 0.9. The distribution by occupation was: housewives (35.9%), private sector employee (20.8%), public employee (16.7%), farmer (13.9%), merchants (6.5%) and students (6.1%).

Epigastralgia was the most common indication (57.6% of gastropathy). Other indications of gastropathy were: hematemesis (10.2%), portal hypertension (11.4%), gastric or bulbar ulcer (3.7%), vomiting (2.9%), dyspepsia (2.5%), dysphagia (2.5%), GERD (2.4%), anemia (1.6%), sensation of EC in the throat (1.2%), anorexia (1.2%), ascites (0.8%), Biermer's disease (0.8%), odynophagia (0.8%), antropyloric stenosis (0.8%) and other indications (4.5%: belching, needle ingestion, esophageal lesion, periumbilical mass, esophageal mycosis, chronic rhinorrhea, gastric tumor, constipation, chronic pharyngo-laryngitis, duodenal cancer, cirrhosis).

These were pangastropathy for 63.3% of all endoscopies and antral gastropathy for 36.7%.

The distribution of patients according to the character of the gastropathy was: erythematous (53.5%), erosive (48.6%), congestive (31.8%) and mosaic (12.2%).

Gastric or bulbar ulcer

One hundred and forty (140) cases of gastric or bulbar ulcer (15% of all endoscopies) were found in this series. The mean age of patients was 53.1 years with extremes of 18 years and 86 years. The age group of [40 - 70[accounted for 62.1% of cases. Male accounted for 54.2% with a sex ratio of 1.2.

The distribution by occupation of patients with gastric or bulbar ulcer was:

housewives (34.3%), private sector employee (21.4%), public employee (12.9%), farmer (22.9%), merchants (7.1%) and students (1.4%).

The indications of gastric or bulbar ulcer were: hematemesis (27%), vomiting (15.7%), abdominal pain (14.1%), melena (11.2%), ulcer suspicion (5.6%), dysphagia (4.5%), abdominal mass (3.3%), hematochezia (2.2%), hiccups (2.2%), dyspepsia (2.2%), anorexia (2.2%), gastric and esophageal stenosis (2.2%). Other indications (7.6%): weight loss, asthenia, health check-up, control after treatment of gastric ulcer, bloody diarrhea, belching, gastroparesis, esophageal mycosis, odynophagia, esophagitis.

The distribution was: antral (64.3%), bulbar (25%), antral and bulbar (10.7%). The distribution of 41 Forrest classification noted was: IA (2.4%), IB (9.8%), IIA (4.9%), IIB (22%), IIC (12.2%) and III (48.8%).

Gastroparesis

Twenty-four (24) cases of gastroparesis (2.6% of all endoscopies) were found in this series. The mean age of gastroparesis was 54.4 years with extremes of 20 years and 85 years. The age groups of [20 - 30[and [60 - 70[each accounted for 20.8%. Male accounted for 70.8% with a sex ratio of 2.4.

The distribution by occupation of patients with of gastroparesis was: private sector employee (33.3%), housewife (29.2%), farmer (16.7%), public employee (16.7%) and merchants (4.2%)

Epigastralgia was the most frequent indication (41.7% of gastroparesis). Other indications of gastroparesis were: hematemesis (20.8%), portal hypertension (20.9), vomiting (8.3%), pyrosis (4.2%), pylorus stenosis (4.2%), abdominal pain (4.2%), dysphagia (4.2%) and esophageal fistula (4.2%).

3.7. Bulbar Disorders

Bulboduodenopathy

Nine (9) cases of bulboduodenopathy (1% of all endoscopies) were found in this series. The mean age of patients with bulboduodenopathy was 59.2 years with extremes of 36 years and 78 years. The age group of [50 - 80[accounted for 66.6% of cases. The sex ratio M/F was 8 to 1.

The distribution by occupation of patients with bulboduodenopathy was: private employee (3), housewives (2), farmer (2), public employee (1) and students (1)

The indications of bulboduodenopathy were: gastrointestinal bleeding (4), epigastralgia (2), pyrosis (1), portal hypertension suspicion (1), esophageal tumor (1) and vomiting (1).

Bulboduodenopathies were all erosive in this series.

3.8. Lower Digestive Disorders

Hemorrhoidal diseases

Twenty-three (23) cases of hemorrhoidal diseases (2.5% of all endoscopies) were found in this series. The mean age of patients with hemorrhoidal diseases was 38.1

years with extremes of 22 years and 71 years. The age group of [30 - 50[accounted for 65.2%. Male accounted for 52.2% with a sex ratio of 1.1.

The distribution by occupation of patients with hemorrhoidal diseases was: merchants (6), students (5), private sector employee (5), public employee (3), housewives (3) and farmer (1).

Hematochezia (16/23) was the most common indication of hemorrhoidal diseases. Other indications were: hemorrhoidal diseases already known (3), proctalgia (3), anemia (1), melena (1) and anal lump (1).

Internal hemorrhoids were all at grade I for 14 patients. External hemorrhoids were found for 9 patients. Anal skin tags were noted for 7 patients.

Functional bowel disorders

Seven (7) cases of bowel disorders (0.8% of all endoscopies) were suspected after endoscopy due to the absence of organic lesions and the presence of numerous spasms in patients with suggestive clinical symptoms. The mean age of patients was 52.3 years with extremes of 23 years and 86 years. Five (5) patients with bowel disorders were male with a sex ratio of 2.5. The distribution by profession was: private employee (3), retired (2), civil servant (1) and housewife (1). Hematochezia (16/23) was the most common indication. Other indications were: abdominal pain (3), constipation (3), weight loss (1), anemia (1), bloating (1), epigastralgia (1), rectorrhagia, hematemesis, melena (1).

4. Discussion

This study was single-center, retrospective and in symptomatic patients. However, being a referential center, the data could reflect the situation of the Burkinabe population. Gastroenterologists were the prescribers in only 1.1%. General practitioner (76.3%) were the most frequent prescribers. Certainly, because they were the first to examine patients referred to the CHU-B. Indeed, the other reference centers were varied: public, private, religious, military, urban and regional. Also, the goal sample was other-sized. The cost of the examinations could be a limiting factor given the low socio-economic level of the general population.

The flow of endoscopy centers depends on the range of services offered and the availability of the service. In the center, UE was the most performed (93%). Per year, there were 468 DE; 435UE and 33 LE. Figures are similar to those of the Central African Republic [10] with 456 UE per year; higher than those of Togo [11] with 248 UE per year and lower than those of Asia, America and other with 2795DE in 2 years [12], 474 LE in 2 years [13] and 367 LE per year [14]. The study center doesn't have continuous services, nor therapeutic or interventional endoscopies. The growing number of the operators (gastroenterologists in Burkina Faso) could be helpfull.

Compared to similar studies, predominance of sex is controversial, depending on the indication and the lesion [5]-[8].

The findings of clinical signs and endoscopic pathologies reflect a symptomatic referral-center population. Hypotheses used as explanations, such as diet, obesity,

stress, household activities or infections were not measured in the current study.

Epigastralgia (40.5% of all endoscopies) was the most indication as reported by several Sub-Saharan authors. In Togo [12], Senegal [11], Benin [15] and Ghana [16], frequencies were 60.68%, 62.9%, 45.95 and 42.5% in UE. The spicy and hot meals were incriminated. The same observation was made in children [2].

Frequency of normal result in UE only was 5.2%. It is a referential center in the capital. It was lower than that of the country's medium-sized cities (10.2%) [8]. The absence of an indication, a long delay before carrying out the examination or a previous treatment like proton pump inhibitors (PPIs) can also explain a normal result [17]. The frequency was higher in LE (37.9%) but its frequency was very low (7%) in the study. Diseases affecting the anorectal region are often perceived as embarrassing. Thus, the number of medical consultations is reduced. Self-medication, phytotherapies or other traditional treatments are preferred.

Esophagitis (54.1% of all endoscopies) was the lesion predominantly found in UE. Epigastralgia was the most indication of all endoscopies especially for UE. Peptic esophagitis frequency was higher (63.4% of all esophagitis) and is also called reflux esophagitis (GERD). Its high frequency could be explained by the change in eating habits with increasingly fatty meals and caloric foods that promote obesity and GERD. Diagnosis was made at early grades (88.5% at Grade I). Early and appropriate treatment should make it possible to limit the progression to more severe forms.

Signs of portal hypertension (including esophageal varices) were found in 6.8% of all endoscopies. Ascites, gastrointestinal bleeding, splenomegaly and collateral venous circulation on the abdomen were identified apart. Those cases were due to hepatic cirrhosis caused by the hepatitis B virus (HBV) which is endemic in the country. Precarious economic conditions delay the management of liver diseases, leading to complications such as cirrhosis.

Hiatal hernia was found on gastrointestinal endoscopy in 29.7% of all endoscopies. According to current knowledge, it can occur at any age. In infants, the immaturity of the anti-reflux barrier is suggested. It is more common with age due to the relaxation of the tone of the sphincters and therefore that of the anti-reflux barrier. In young adults, obesity, certain unhealthy eating habits or a family history are the risk factors. The female predominance (57.2%) could be explained by situations of abdominal hyperpressure. Indeed, wearing clothes that are too tight, girdles, pregnancies and hormonal factors, in particular progesterone (relaxation of smooth muscles) would contribute to the accentuation of the symptoms of reflux esophagitis (GERD) in women. In addition, housewives (36%) were in the majority. Several factors explain this susceptibility: sedentary lifestyle, poor eating habits, abdominal hyperpressure related to household chores, going to bed immediately after a meal, etc.

Gastropathies were the first gastric involvement in this series. Its frequency was 26.2% of all endoscopies. It could often linked to the consumption of tobacco, alcohol, spicy or very acidic foods. In addition, fasting, an unbalanced diet, rich

in starch and low in fiber, vitamins, proteins and certain gastroaggressive phytotherapies have been incriminated. Pangastropathy was the majority in 63.3% of all endoscopies. It reflects a global involvement of the stomach in response to prolonged or systemic aggressions. It is multifactorial and linked to infectious (*H. pylori*), drug (NSAID), nutritional and environmental causes. *H. pylori* is a common cause of erythematous gastropathy (53.5% of these cases). Chronic inflammation of the gastric mucosa linked to this bacterium leads to vascular congestion and erythema of the mucosa.

The frequency of gastric or bulbar ulcer was elevated to 15% of all endoscopies with antral localization in 64.3%. The prevalence of *H. pylori is* high (≥ 80%) in this context [18]. This bacterium is implicated in the formation of ulcers: Long-term abuse or use of steroidal or nonsteroidal anti-inflammatory drugs (NSAIDs) may impair the production of protective prostaglandins. Excessive alcohol consumption and smoking directly irritate the gastric lining, slowing down the healing of ulcers and increasing the risk of bleeding. Certain spices and fasting are also incriminated. The mean age of patients was 53.1 years with extremes of 18 years and 86 years. The predominance was male with a sex ratio of 1.2. However, housewives were in the majority (34.3%). Chronic stress is blamed. Hematemesis (17.1%) was the indication that most revealed gastric or bulbar ulcer; followed by abdominal pain (10%) and vomiting (7.2%).

Gastroparesis had a frequency of 2.6% of all endoscopies. The mean age of these patients was 54.4 years with extremes of 20 and 85 years. It is often linked to chronic conditions such as type 2 diabetes, metabolic disorders, autoimmune diseases or a history of surgery [19] [20].

Bulbopathies (1% of all endoscopies) were all erosive in this study. They are often linked to acute or chronic inflammatory or infectious processes.

The suspected oesogastric malignant tumor found required a histo-pathological diagnosis (not concerned by the study).

5. Conclusions

This study allowed us to provide an overview of the digestive pathologies diagnosed with the help of digestive endoscopy. The epidemiological profile of patients who underwent gastrointestinal endoscopy was dominated by young women. Epigastralgia and gastrointestinal bleeding were the indications for gastrointestinal endoscopy in most cases.

Public education should be strengthened, particularly for anorectal pathologies and the benefits of endoscopic examinations. The aim is to motivate early medical consultations. Also, capacity building, continuous training, the use of innovative technologies, particularly interventional and therapeutic with the application of artificial intelligence, are to be implemented in reference services.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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