

# Gastrointestinal endoscopy findings in Guyanese: a review of 250 cases in Diamond.

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## Abstract

**BACKGROUND** The advent of flexible endoscopy has made it possible to visualize the mucosa of the entire intestine. This service is not yet widely available in Guyana with few reports concerning upper gastrointestinal endoscopy findings on the population of this country. **Objective**[3] The aim was to describe: endoscopic findings, clinical symptoms and any complications from endoscopic examinations. **METHODS** We reviewed the endoscopy records of two hundred and fifty patients who underwent upper gastrointestinal endoscopy at the East Bank Demerara, Diamond Regional Hospital in Guyana. The patient's demographics; symptoms, endoscopic diagnosis and any adverse outcome were documented. Data obtained were analyzed using SPSS version 17. **RESULTS** The mean age was 39.6 years for males and 41.2 for females. Most of the patients were in the 31-40 years age group. The main symptoms at admission were epigastralgia (58.8 %), heartburn (22%) and regurgitations (16%), and endoscopic diagnoses were gastritis (100 %); hiatal hernia (64.4 %) and duodenum gastric reflux (38.4 %). Spicy food represents the most common predisposing factor, followed by alcohol consumption and smoking. No complications or mortalities were reported during the study. **CONCLUSION** The frequency of gastrointestinal endoscopy diagnoses in Guyana was not different from other countries. This study provides a new reference for future research and can inform objective recommendations for community-based interventions. Provision of endoscopic facilities and training of necessary personnel should be encouraged by all relevant parties, so the services can be accessible and affordable by all who require it in view of its importance in patient management.

## Key Words

Gastrointestinal endoscopy, gastritis.

## INTRODUCTION

Endoscopic procedures have become standard tools for evaluation and treatment of gastrointestinal disorders. Diagnostic procedures can be performed safely and competently. These procedures have been considered an integral part of the practice of gastroenterology and surgery (1).

Ideally, gastrointestinal endoscopy should be performed only in clinical situations where the procedure has been proven to have a favorable impact on patient management

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or outcome (1,2). Desirable outcomes might include reduction in morbidity and mortality, relief of symptoms, reassurance about the absence of serious disease, and improved quality of life or health status (2).

The high prevalence of upper gastrointestinal disorders such as gastritis, gastro esophageal reflux disease and gastric and duodenal ulcer makes the performance of upper gastrointestinal endoscopy, where available a common procedure for the diagnosis of these diseases.

Lifestyle and nutritional habits play a key role in the recurrence and response to treatment of digestive disorders, however the modification of these risk factors becomes difficult in the Caribbean area due to social, economic and religious influences. The use of spicy food, alcohol consumption and caffeine are examples of these habits.

The aim of this study was to describe patient demographics, symptoms at admission, main gastrointestinal endoscopy findings and complications of patients attended at a regional hospital in Guyana.

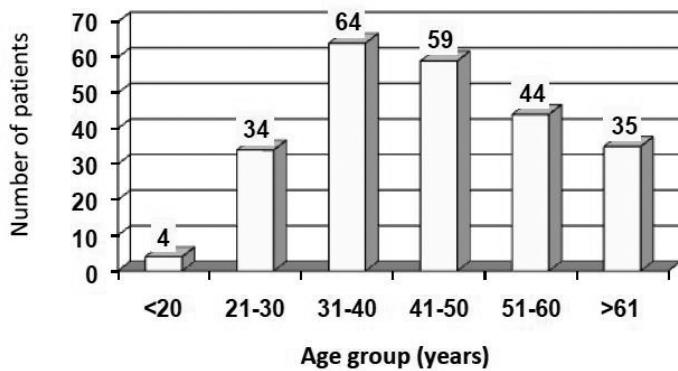


Figure 1. Distribution of patients according to age group

## METHODS

### Patients

From February 2008 to February 2010, 420 patients undergoing upper gastrointestinal endoscopy at East Bank Demerara, Diamond Regional Hospital in Guyana were prospectively evaluated and their endoscopy reports were retrospectively analyzed in this study. Upper GI endoscopies were performed according to standard protocol. Endoscopic diagnoses were based on widely accepted criteria. Two hundred and fifty patients, who fulfilled the following inclusion criteria were included: age above 18 years, a signed consent form to perform procedure and a satisfactory upper gastrointestinal endoscopy. Collected data included age, sex, clinical data at admission (epigastralgia, heartburn, dysphagia, regurgitations, vomiting, digestive bleeding) toxic habits (alcohol, smoking, coffee consumption or nonsteroidal anti-inflammatory drugs), endoscopic diagnosis and complications due to procedure. Case files were then individually examined to extract data relevant to the scope of the study.

The study was performed in accordance with the principles of the Declaration of Helsinki and its appendices and with local and national laws.

### Statistical analysis

Statistical Package for Social Science (SPSS 17) was used to perform the analysis. Parametric variables were analyzed using independent two-sample t-tests, while binary and nominal variables were analyzed using chi square tests ( $\chi^2$ ). All tests were two-tailed and values of  $p < 0.05$  were considered statistically significant.

### Results

A total of 250 patients were included in the study, (106 males and 144 females). The mean age was 39.6 years for males and 41.2 for females. Age distribution is shown in Figure 1. We examined the presence of some predisposing factors. Spicy food intake was the most common, reported by 243 patients (97%), of whom 99 were males (40%) and 144 were females (59%). Alcohol consumption was reported by 84 patients (33.6%); smoking, by 23 patients (9.2 %); NSAIDs use, by 16 (6.4%) and caffeine intake, by 94 patients (37.6%). Furthermore, exposure to more than one predisposing factor was reported by 105 patients (42 %).

Clinical symptoms	Number of cases	%
Epigastralgia	147	58.8
Heartburn	55	22.0
Dysphagia	4	1.6
Regurgitations	40	16.0
Vomiting	31	12.4
Digestive bleeding	5	2.0

Table 1. Clinical symptoms at admission

Endoscopic finding	Number of cases	%
Gastritis	250	100
Hiatal hernia	161	64.4
Duodenal gastric reflux	95	38.4
Duodenal gastroesophageal reflux	55	22.0
Duodenitis	23	9.2
Duodenal ulcer	17	6.8
Gastric ulcer	14	5.6

Table 2. Distribution of main gastrointestinal endoscopic findings

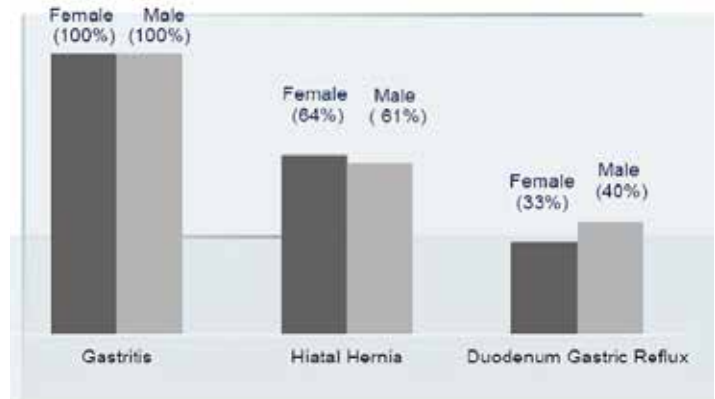


Figure 2. Distribution of patients according to sex and endoscopic diagnosis

Epigastralgia was the most common symptom reported followed by heartburn and regurgitations. (Table 1)

Gastritis, hiatal hernia and duodenal gastric reflux were the most common endoscopic findings (Table 2).

There were 4 cases of esophageal candidiasis, all were men. Gastritis was the predominant endoscopic finding in all age groups. Most of the patients with hiatal hernia were under 20 years. Duodenum gastric reflux was the second most common endoscopic diagnosis in the 31-40 years age group. (Fig 2)

There were no differences in the proportion of female and male patients with hiatal hernia (64 % vs. 61 %,  $\chi^2 = 0.189$ ,  $p > 0.05$ ). Furthermore, there were no differences in gender between the proportion of patients with duodenum gastric

reflux (female 33 % vs. male 40 %,  $x^2 = 1.012$ ,  $p > 0.05$ ). No major complications and no mortalities were reported during the study.

## DISCUSSION

Upper gastrointestinal endoscopy represents a useful procedure to explore esophagus, stomach and duodenum. Endoscopy findings lead to a proper management of most of the upper gastrointestinal disorders.

Of the 250 patients, females constituted the largest proportion of cases. Most of the patients were between 31 and 40 years. These findings were similar to reports from Cuba and Turks and Caicos Islands (4,5). However, our result differs from reports from India and Portugal where the majority of cases were men (6,7).

Spicy food was the most common predisposing factor reported. Spice is an important part of Guyanese food and is used by almost 100 percent of the population, regardless of religion, culture or financial situation. This factor is not directly associated with the etiology of gastrointestinal diseases such as gastritis, hiatal hernia or gastroesophageal reflux (GERD), but may contribute to the symptoms or make them treatment refractory.

Studies from Cuba and Africa report epigastralgia as the main symptom reported by patients referred for upper endoscopy. In our study, the high prevalence of gastritis and duodenum gastric reflux may explain the presence of this symptom in the majority of patients (4,8).

Gastritis was the main endoscopic finding, data similar to reports from Turks and Caicos, Cuba and Iran (4,6,9). Furthermore, in a study that included patients from four countries on three continents (Japan, China, Tanzania, and the Dominican Republic), Aoki et al reported gastritis prevalence rates ranging from 23.5% to 96.5% (10). Gastritis was most frequent among men than women according to reports from Iran, India and Africa (6,7,11). It is well-known that *Helicobacter pylori* infection and NSAID consumption represents the main cause of gastritis worldwide. In our study there was no gender difference for this endoscopic diagnosis, all patients included were diagnosed with gastritis. One of the main drawbacks of the study was the unavailability of the test for HP diagnosis in public hospitals in Diamond. Endoscopic and radiological studies show that 50 to 94 % of patients with gastroesophageal reflux disease have an axial hiatal hernia; while in control persons, the incidence fluctuates between 13 % and 59 % (12). Similar to our results, a Cuban study in a large population of patients undergoing upper endoscopy in primary care reports hiatal hernia as the second most common endoscopic finding (4).

A study from Iran revealed that male gender is a risk factor for hiatal hernia (9). Another study from the Republic of Czechoslovakia reports that in patients, who underwent endoscopy, 16.6% had hiatal hernia, found more frequently in men (53.6%) (12). These findings differ from our study where there were no differences in gender with regard to hiatal hernia.

In conclusion, this report, to our knowledge, is the first one concerning upper gastrointestinal endoscopic diagnoses in a

regional hospital in Guyana. This study provides new useful information in order to increase the number of endoscopic facilities and training personnel and make it more accessible and affordable for all those who require it.

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