

Fifteen years of upper gastrointestinal endoscopy in Zaria (1978 – 1993)

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Summary

Seven hundred and ninety patients had upper gastrointestinal endoscopy in a fifteen-year review in the Ahmadu Bello University Hospital, Zaria. Dyspepsia was the commonest indication for the procedure. The male female ratio was 1.5:1. The mean age of the patients was 37.8 years and most patients presented in the 4th and 5th decade of life. Epigastric tenderness was the commonest physical finding and chronic liver disease was seen in only 4.3%. Gastritis and duodenitis were the commonest endoscopic findings. The duodenal and gastric ulcer ratio was 10:1. Gastric and oesophageal malignancies were seen in the 6th and 7th decade of life. Non-ulcer dyspepsia was seen in 39% of the patients.

Résumé

Sept-cent-quatre vingt-dix patients ont eu la partie gastrointestinale supérieure examinée au par endoscopie, selon une revue de 15 ans à l'hôpital Ahmadu Bello, Université de Zaria. La dyspepsie était l'indication la plus commune pour cette procédure. Le ratio homme: femme était de 1,5:1. La moyenne d'âge des patients était de 37,8 ans, et la plupart des patients présentes étaient dans leur 4^{ème} et 5^{ème} décennie de la vie. Les douleurs épigastriques étaient les observations physiques les plus communes et les maladies chroniques du foie étaient observées chez 4,3% des sujets. Les gastrites et duodenites avaient été les observations endoscopiques les plus communes. Le ratio de l'ulcère duodénal et gastrique était de 10:1 les tumeurs malignes gastrique et oesophagées avaient été observées dans les 6^{ème} et 7^{ème} décennie de la vie. La dyspepsie non-ulcéreuse avait été observée chez 39% des patients.

Introduction

It is now a fact that peptic ulcer disease (PUD) is not rare in Africa [1-3]. The disease is increasing in many parts of Africa and this increase is higher in the cities than in the immediate surrounding rural areas [4-5]. A study in the Ahmadu Bello University Hospital, Zaria, showed a higher prevalence of PUD in patients with symptoms [6]. In previous studies, duodenal ulcers were noted to be more common than gastric ulcers [6,7] and with the introduction of fiberoptic endoscopy, detailed studies of the upper gastrointestinal tract have become possible. Also endoscopy has been reported to be more cost effective than barium meal [8,9]. In analysis of 2500 endoscopies in the Sudan, 40% were normal; duodenal ulcers were commoner than gastric ulcers [7% as against 0.7%]. Since the pattern of the disease may change from region to region and from one country to another, we undertook to review all the cases of upper gastrointestinal endoscopy carried out in our unit in the last 15 years to determine the pattern of findings in this part of Nigeria. For most of the fifteen years, the Endoscopy Unit of the Ahmadu Bello University Hospital was the only one serving the whole of northern

Nigeria with a catchment population of more than 30 million.

Patients and methods

All patients' records of endoscopy from 1978 to 1993 were retrieved. The records were reviewed for personal data including age, sex, occupation, address and indications for endoscopy. Other investigations done before the endoscopy procedure such as stool for occult blood, barium meal, full blood count, urea and electrolytes, and liver function test where available were also reviewed. Peptic ulcer disease is defined as a group of ulcerative disorders of the upper gastrointestinal tract which appear to be more characterised by the participation of acid-pepsin in their pathogenesis [10]. The data were entered into a preformed questionnaire using EPI Inform Version 6.0 statistical package. The same statistical package was used to analyse the data, which included frequency and mean of all the variables. A Chi-square test was also used in variables that could be tested.

Results

Informed consent had been obtained from all the patients and nearly all the cases were booked rather than emergency ones. The endoscope used depended on the working condition of the instrument and included Olympus GIF and JFB2. The endoscopy was carried out as described by Curie [9]. A total of 790 endoscopy procedures were performed in 15 years. The procedure had to be abandoned in 17 [0.2%] of cases. Causes of failed procedure included extreme apprehension with refusal to swallow the endoscope mostly by anxious young females and vomiting by patients who did not comply with the mandatory six hours fast prior to the procedure. One elderly patient with chronic airflow limitation [emphysema] became cyanosed during the procedure leading to abandonment of the procedure. Ten patients did not require premedication [diazepam], they were generally fit-looking young persons and those for repeat procedure. However local lubrication with xylocaine or K-Y jelly was used for all patients. Table 1 shows the number of patients who had the procedure in each year. The small number seen in some of the years was because the procedure was not regular either due to endoscope malfunctioning or movement of specialized personnel to some other centres. In 1987 and 1991 there was no endoscopy procedure because of inavailability of trained personnel.

Out of the 790 patients, 479 were males [60.6%] and 311 were females [39.4%] with a male: female ratio of 1.5:1. The ages of the patients ranged from 10 to 70, with 70% below the age of 40 years. The age group with the highest patient population was 30-39 (Fig. 1)

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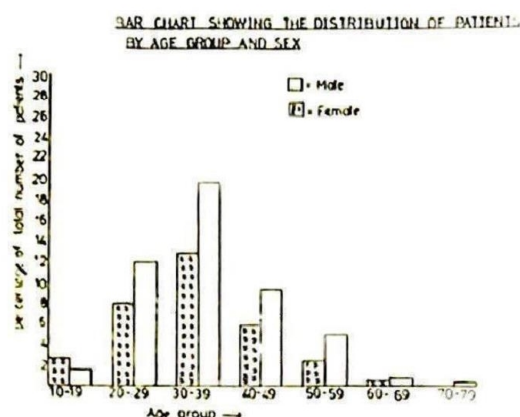


Fig. 1

Table 1: The number of patients who had endoscopy per year.

Year	Number of Patients
1978	47
1979	114
1980	92
1981	115
1982	223
1983	220
1984	116
1985	57
1988	10
1989	9
1990	17
1992	22
1993	6
Total	790

The commonest indication for request of the endoscopy procedure was dyspepsia (70%), dyspepsia and vomiting [9.2%] and haematemesis [9.1%] (Table 2).

Table 2: Clinical indications for endoscopy (790 patients)

Symptoms	Percent (%)
Dyspepsia	70.1
Vomiting/Dyspepsia	9.2
Haematemesis	9.1
Dyspepsia/Haematemesis/Melaena	4.6
Dysphagia	2.8
Melaena	2.4
Vomiting	1.9

Table 3 shows the major findings in the physical examination of the patients before the procedure, with epigastric tenderness being the commonest.

Table 3: Clinical features in all the patients (790) who had endoscopy

Features	No. of Patients	Percent
Epigastric tenderness	470	59.5
Wasting	53	6.7
Chronic liver disease	42	5.3
Pallor	37	4.7
Normal	170	21.5
Others	18	2.5
Total	790	100

Chronic liver disease represented 5.3% of the patient population and 83.3% had symptoms of haematemesis and or melaena.

Investigations included stool for occult blood in 390 patients, with 324 having a positive result [83%] and 66 patients with negative result. Of the positive occult blood in stool, 74% had at least one endoscopy finding of either gastritis or duodenitis or gastric ulcer. A third of the patients with negative occult blood in stool also had some lesions reported on endoscopy.

Table 4: Barium meal findings in 422 patients for years under review.

Features	No. of Patients	Percent
Normal	197	46.6
Duodena bulb	94	22.3
Ulcer/deformity		
Deformed pylorus	76	18.0
Gastric ulcer	38	9.0
Gastric outlet obstruction	9	2.1
Varices	8	2.0
Total	422	100.0

Table 4, shows the barium meal findings in which 22.3% had duodenal bulb ulcer or deformity and 46.6% were reported as normal. Nearly more than half of the patients (422) that reported for endoscopy had barium studies before the procedure.

Endoscopic findings are shown in Table 5, with gastritis and duodenitis being the features seen more frequently. Carcinoma of the stomach and oesophagus, reflux alone, gastric outlet obstruction and J stomach were the least seen abnormalities.

Table 5: Endoscopy findings in 773 patients out of 790 who had successful procedure.

Features	No. of Patients	Percent
Normal	314	40.6
Gastritis	289	37.4
Duodenitis	206	26.8
Duodenal ulcer	153	20.0
Oesophagitis	128	16.8
Deformed duodenal bulb	76	10.2
Oesophageal varices	57	7.8
Reflux oesophagitis	35	5.0
Gastric ulcer	31	4.5
Carcinoma stomach	22	3.4
Gastric outlet obstruction	17	2.8
Carcinoma oesophagus	10	1.9
Reflux alone	4	0.005
J stomach	1	0.001

Abandoned procedure 17 (seventeen) patients 0.02%

Duodenal and gastric ulcers were seen mainly in patients below the age of 40 whereas carcinoma of the oesophagus was seen in patients in the 5th and 6th decade of life. Duodenal ulcer [DU] was more common than gastric ulcer [GU] with a ratio of 10:1 and there were more males [94] with duodenal ulcer than females [58]. Similarly there were more males [21] with gastric ulcer than females [10]. The findings on malignancies were also male preponderance, e.g., 16 males had carcinoma of the stomach against 6 females. There were 6 males with carcinoma of the esophagus compared to 4 females with similar findings. We compared both barium meal and endoscopy procedure in 422 patients who had both procedures. Out of these 47% had a normal barium meal report and only 23% of the same group had normal endoscopy report ($P < 0.01$). Endoscopy was also superior in detecting oesophageal varices [57 from endoscopy against 8 from barium meal], $P < 0.0000001$. Out of the 42 patients that had chronic liver disease as diagnosis, 83.3% had oesophageal varices on endoscopy.

Discussion

The availability of fiberoptic endoscopy has made the diagnosis of peptic ulcer disease easier and superior to barium meal studies [9]. The availability of trained personnel in centres could also affect the number of procedure. In this report there was a two-year period in which no procedure was done because of movement of personnel. In this study, dyspepsia was the major indication for the procedure in 70% of the patients. This similar to earlier reports from Nigeria and the Sudan [3,6,7,8]. The male to female ratio of 1.5:1 is lower than that reported in an earlier review from the same centre by Malu et al. [6] but similar to that reported by the same author from another centre in northern Nigeria [7]. This disparity may have resulted from differences in sample size of the patient population studied. Earlier studies as well as the report by Popoola et al. [11] agreed with this report on the mean age of 37.8 years for patients presenting for endoscopy. It has been stated in some reports that epigastric tenderness may not be elicited in more than half the patients. That is similar to the findings of 40% in this report [7,8]. Chronic liver disease accounted for 42 patients (5.3%) in this report who presented for endoscopy. There were 83.3% out of the 42 patients with oesophageal varices on endoscopy. The findings of oesophageal varices in such a large number suggests that routine oesophagoscopy in patients with clinical features of chronic liver disease may lead to earlier detection and prophylactic sclerotherapy of such varices to preempt life-threatening variceal bleeds. The finding in this study of 40.6% of patients with normal endoscopic report is similar to the report by Malu et al. [6,7] and Fiedel et al. [8] in the Sudan. Patients with normal endoscopic findings have been reported to either have non-ulcer dyspepsia that is a variant of irritable bowel syndrome or may be somatising a depressive illness or anxiety neurosis [12,13].

About 77% of the patient tested for occult blood were positive, an indirect indication of upper gastrointestinal bleeding. It will be difficult to speculate on the importance of such tests because of the false positivity and the fact that in this study only half of the patient population had the test done. Of the 422 patients, that had both barium meal and endoscopy, 47% and 23% had a normal report, respectively, indicating a higher sensitivity of endoscopy to barium meal. It is also known

that endoscopy is the gold standard investigation for peptic ulcer disease. It has been reported that lesions such as oesophagitis, gastritis and duodenitis are not picked easily on routine barium meal study [14,15]. With double contrast barium meal studies, the sensitivity is almost identical to that of endoscopy [1,14,16]. The commonest endoscopic findings in this study were gastritis and duodenitis. The importance of these two conditions in relation to dyspepsia in Nigeria has been highlighted in recent studies by Popoola [11] and Malu et al. [17]. The high incidence of these two conditions in this report is likely to be related to high prevalence of *Helicobacter pylori* in northern Nigeria [18]. Oesophagitis accounted for 16.2% of the cases and more than half of such patients had evidence of gastro-oesophageal reflux on endoscopy. Duodenal ulcer was seen in 19.4% of our patients similar to the Malu et al. (7) report of 17.3% in the Middle-Belt of Nigeria. Gastric ulcer was uncommon in this report [3.9%] with a DU:GU ratio of 10:1, which is lower than the ratio reported by Fiedel et al. [8] from the Sudan, but higher than that from the Middle-Belt of Nigeria [7]. These differences observed might have some socio-cultural explanation, but this factor could not be explored because the study was a descriptive one. This report did not confirm the positive relationship between symptoms and endoscopy findings reported by Munsu et al. [19]. Gastric and oesophageal neoplasms were uncommon, accounting for 2.8% and 1.3%, respectively. The lower figures could be because some of the patients were managed in the surgery department or did not appear in hospital because of advanced disease. The neoplasms were seen in the elderly similar to an earlier report [7], but in the Sudan the disorder was seen in a younger age group [8].

Conclusion

Gastritis and duodenitis were the common endoscopic findings in this report. Duodenal ulcer was more common than gastric ulcer. Peptic ulcer disease was a disease of young. Endoscopy seemed more sensitive than barium meal studies and non-ulcer dyspepsia constituted more than a third of patients presenting with dyspeptic symptoms.

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