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HISTOPATHOLOGICAL BASES OF ORGANIC DYSPEPSIA IN BENIN CITY – A HOSPITAL BASED STUDY OF 186 CASES

Obahiagbon I*; Egbo OH**
*Department of Pathology, School of Medicine, University of Benin, Benin City, Nigeria
**Department of Pathology, Edo University, Iyamho, Edo State, Nigeria
Corresponding Author: Egbo O H.
Email: egbo.harrison@edouniversity.edu.ng
Phone No: +2348033360319

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ABSTRACT

Dyspepsia is a symptom complex characterized by features which include epigastric pain or discomfort, belching, bloating and heart burn amongst others, and is one of the commonest indications for upper gastrointestinal endoscopy in Nigeria. The aim of this study was to determine the histopathological bases of organic dyspepsia in this environment. Upper gastrointestinal endoscopy specimens from 186 patients diagnosed with organic dyspepsia in our centre over the 6-month study period were the materials for the study. These were subjected to tissue processing and histopathological examination. The vast majority of the cases of organic dyspepsia had their histopathological bases in the stomach, mostly from various forms of chronic and reactive gastritis, with occasional cases of gastric mucosal ulcers and frank malignancies. *Helicobacter pylori*-associated chronic gastritis continues to underlie most organic causes of dyspepsia in our environment.

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INTRODUCTION

Chronic upper abdominal pain is generally referred to by the term dyspepsia.[1] Strictly speaking however, it is a symptom complex rather than a specific disease, and its components may include epigastric discomfort, belching or regurgitation, bloating, anorexia, early satiety, nausea and heart burn.[2] The Rome Criteria (Rome III and IV) have defined dyspepsia as the persistence of any of the following symptoms for at least 6months: post prandial fullness, early satiety, epigastric pain and epigastric burning (according to Rome IV the last three symptoms must be "bothersome").[2-5]

Upper gastrointestinal endoscopy (UGIE) is vital to the classification of dyspepsia.[6] While functional dyspepsia refers to cases of dyspepsia that have been endoscopically investigated but are without any identified pathology, organic dyspepsia refers to cases of dyspepsia with demonstrated pathological bases on endoscopy. Uninvestigated dyspepsia is the term for situations where the patient has not been investigated. Dyspepsia is one of the commonest indications for UGIE in Nigeria.[7-11]

Although UGIE is deemed sufficient for the diagnosis of organic dyspepsia[6] this study sought to determine the pattern of the underlying histopathological anomalies in patients diagnosed with organic dyspepsia in our environment.

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METHOD

This was a 6-month prospective study carried out at the Gastrointestinal Endoscopy Unit of the Department of Medicine and the Department of Anatomical Pathology, both of the University of Benin Teaching Hospital, from August 2018 to January 2019.

The University of Benin Teaching Hospital is the major tertiary care and referral centre in south-south Nigeria, and serves as catchment centre to several neighbouring states. The centre offers clinical services and training in gastroenterology and histopathology, amongst various other specialties.

A total of 186 patients were diagnosed with organic dyspepsia in our Gastroenterology Unit during the study period based on their upper gastrointestinal endoscopic findings. The biopsy specimens obtained from them were fixed in 10% neutral buffered formalin, and then the tissues were processed and embedded. Thin tissue sections of 3-5µm were made and stained with haematoxylin and eosin. Also, additional sections were stained with Giemsa stain for *Helicobacter pylori* identification. The histopathological findings on microscopy were recorded.

RESULTS

Of the 186 consecutively diagnosed organic dyspepsia patients encountered in our study, 73 were males and 113 were females, giving a male-female ratio of about 1:1.5. The ages of the patients ranged from 18 – 90 years with a mean age of 50.8years. The modal age group was the 31 – 40 year bracket, closely followed by 51 – 60 years. The age and sex distribution is as shown in Table 1.

One hundred and seventy-nine (96.3%) of the cases of organic dyspepsia had histopathological bases in the stomach, ranging from *H. pylori*-associated chronic gastritis (149 cases, 80.1%), to reactive gastritis (18 cases, 9.7%), to gastric mucosal ulceration (4 cases, 2.2%) to gastric adenocarcinoma (8 cases, 4.3%). Organic dyspepsia due to oesophageal pathology was observed in 5 cases (2.6%). Of these, squamous cell carcinoma accounted for 3 cases (1.6%). There was a case each of oesophageal squamous intraepithelial neoplasm (severe dysplasia) and gastro-oesophageal reflux disease (GERD). In one instance no histological anomalies were found on microscopy. These findings are summarised in Table 2.

Table 1: Age and sex distribution of the patients with organic dyspepsia

Age groups	**Gender**		**Total frequency**	**Percentages**
	Male	Female		
11-20	0	2	2	1.1
21-30	7	6	13	7.0
31-40	25	22	47	25.3
41-50	19	16	35	18.8
51-60	9	32	41	22.0
61-70	10	19	29	15.6
71-80	3	14	17	9.1
81-90	0	2	2	1.1
Total	**73**	**113**	**186**	**100.0**

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Table 2: Distribution and frequency of histopathological examination findings from biopsies taken from patients with organic dyspepsia following upper gastrointestinal endoscopy.

HISTOPATHOLOGY	FREQUENCY	%
OESOPHAGUS		
Squamous cell carcinoma	3	1.6
Squamous intraepithelial neoplasm (severe dysplasia)	1	0.5
Gastro-oesophageal reflux disease (GERD)	1	0.5
STOMACH		
H. pylori - associated chronic gastritis	149	80.1
Reactive gastritis	18	9.7
Gastric mucosal ulceration	4	2.2
Gastric adenocarcinoma	8	4.3
DUODENUM		
Chronic duodenitis	1	0.5
NORMAL UPPER GI HISTOLOGIC FINDINGS	1	0.5
TOTAL	**186**	**100**

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DISCUSSION

Dyspepsia is common symptom associated with diverse upper gastrointestinal disorders which warrant patient's referrals to the gastroenterologist for upper gastro-esophageal endoscopy, with biopsied tissues sent to the histopathologist for a confirmatory diagnosis.

This study surveyed 183 cases with organic dyspepsia and found that more females (than males) are affected in a ratio of 1.5:1, this is in keeping with similar reports from Nigeria and other countries of the world [12-16]. A previous study in Edo state has shown that males have a poor health seeking behavior when ill, and this may be responsible for a higher preponderance of females in this study [17]

The study also revealed that the age bracket mostly affected was 31-40 years and a mean age of 50.8 years, this is also similar to a study by Goshal et al [18] and also show that the most of cases of organic dyspepsia increases with older age due to increasing risk of other comorbidities.

Amongst the vast cases of organic dyspepsia seen in this study, gastritis was the most common endoscopic findings, which agrees with histopathologic diagnosis. This observation is consistent with the findings by Jemilohun et al [19] in South West, Nigeria where gastritis accounted for 60.5% of all UGI endoscopy. In North Eastern Nigeria, Mustapha et al [20] found a prevalence of 60% gastritis. Other studies in Africa also have gastritis as the most common endoscopic findings. [21, 22]

Based on histopathologic diagnoses, of the 167 cases of gastritis seen in this study, 149 (89.2%) cases were categorized as chronic gastritis which is mainly attributed to high

prevalence of H. pylori infection responsible for chronic gastritis, and 18 (10.8%) cases of Reactive gastritis. This unequivocally agrees with most of the previous studies.

Malignancy was noted in a total of 11 patients, amongst which were 8 cases of adenocarcinoma of the stomach, while from the 4 cases of oesophagus seen, 3 oesophageal were squamous cell carcinoma, and a case of squamous intraepithelial neoplasm. This is similar with a previous study in UBTH by Ugiagbe et al in which 13 of 597 with dyspepsia with Upper GI Malignancy where 3 had oesophageal malignancy and 10 had gastric ulcer.

Conclusively, vast majority of the cases of organic dyspepsia had their histopathological bases in the stomach, mostly from various forms of chronic and reactive gastritis, with occasional cases of gastric mucosal ulcers and frank malignancies. Helicobacter pylori-associated chronic gastritis continues to underlie most organic causes of dyspepsia in our environment.

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