

PRELIMINARY STUDY OF THE CORRELATION OF SYMPTOMS OF DYSPEPSIA WITH RADIOLOGICAL FINDINGS

**Prof. B. C Umerah, *Dr. F.I Obioha, **Dr. O. C. Okpala, *Dr. I.J Okoye*

**Department of Radiation Medicine, University of Nigeria Teaching Hospital, Enugu,*

***Department of Radiology, Nnamdi Azikiwe University, Nnewi*

ABSTRACT

Three hundred and eighty-one (381) barium meal studies were studied. There was low incidence of gastro-esophageal reflux and hiatus hernia and relatively high incidence of achalasia. Our studies revealed rarity of post-bulbar ulcers. There were high incidences of duodeno-gastric ulceration and lymphomas. The occurrence of the latter being higher than gastric ulcers. A high incidence of peptic ulcers was found in 21-30 year age group.

ABSTRAIT

Trois cents et 381) études de repas de baryum d'eighty-one (ont été étudiés. Il y avait incidence limitée d'hernie gastro-oesophagienne de reflux et de hiatus et incidence relativement élevée d'achalasia. Nos études ont indiqué la rareté des ulcères poteau-bulbaires. Il y avait des incidences élevées d'ulcération et de lymphomas duodeno-gastriques. L'occurrence de dernier être plus hauts que les ulcères gastriques. Une incidence élevée des ulcères peptiques a été trouvée dans la catégorie d'âge de 21 - 30 ans.

INTRODUCTION

Some diseases like appendicitis and peptic ulcer were not usually associated with Africans.¹ Apart from notable examples like Crohn's disease and ulcerative colitis which are still recognized to be very rare, most of the other conditions are now regularly found in Africans in contemporary medical practice.²

The aim of this preliminary study is to establish the incidence of positive radiological findings in patients with

dyspepsia and relate these with symptomatology.

METHOD

Retrospective analysis of our barium meal studies over a 3 year period was conducted on patients referred to the University of Nigeria Teaching Hospital, Enugu.

The radiological findings were then reviewed.

RESULTS

A total of 381 patients were studied and the age range was 10 to 60 years.

There were 198 male and 183 female patients. These findings are tabulated in the tables as shown.

Discussion

The results confirm some of our clinical impressions. Both symptoms and positive findings at Barium studies show significant differences compared with studies in Western Countries. Table 1 summarizes the relationship between the symptoms and radiological findings.

Our results show that pain was the most common symptom (66%) and was the most relevant for peptic ulcer and organic lesions in the upper gastro-intestinal tract. Heartburn was uncommon (about 11%) and confirmed the rarity of gastro-esophageal reflux and hiatus hernia. However, the incidence of duodenal ulcer as well as high gastric acidity was high, the latter is judged by significant amount of resting juice. Our impression is that racial peculiarities

related to physique and life style are responsible for the low incidence of reflux. A high incidence of cascade contour of the gastric fundus which may be significant in stopping reflux may not be right. Cascade deformity was uncommon in females in whom reflux was also very rare. (see table 3).

Fullness was a common complaint and was associated with a high incidence of spasm or hypotonia and in a few cases gastric outlet obstruction. It was not a reliable pointer of peptic ulcer. We suspect that intolerance, for example, lactose (a long standing impression of a defect in Africans) may account for a proportion of these cases). Further studies will confirm or refute this postulation. using barium meal follow through examination and small bowel biopsy.

In Table 2 and 3, we confirmed that the shape of the female and asthenic male stomach was predominantly J- shaped and in males particularly, the pyknic type is perpendicular/oblique shaped. The significance of cascade deformity in our environment as well as elsewhere remains obscure. Apart from resting gastric juice found predominantly on J shaped stomachs, we found no correlation of peptic ulcers and other organic abnormalities with gastric configuration.

In Table 4 a high incidence of *peptic ulcer* was found with duodenal to gastric ratio of 54:1. Gastric ulcer is therefore very rare; this pattern is clearly different from those of Western countries^{4,3,5}. The spicy nature of our diet may be significant in this finding, as gastric ulcers are not associated with hyperacidity.

Post bulbar ulcer seen in many tropical regions is rare in our environment and shows interesting geographical variation, compared with other areas even within this country⁵.

Clearly, rice as a staple food, is not enough to postulate as a basic aetiology. In this small series, a positive case of *carcinoma* represents a significant incidence of carcinoma of the esophagus. This is also confirmed by our overall experience in the past 10 years.

A case of *gastric neoplasm* was found in this series and whilst this is significant, this condition is clearly rare compared with Caucasian studies. It is interesting that lymphoma appears to be more common than carcinoma; this reversal has, to our knowledge, not been previously documented.

Three patients with *gastric outlet obstruction* were as a result of long standing duodenal ulcer. Two cases were due to pyloric *hypertrophic stenosis*-one adult and one infant.

Vomiting was common in all the cases. *Fullness* was a constant complaint in adults whilst *pain* was a presenting complaint in the two patients with associated chronic ulcer.

Rugosity of the stomach and *duodenal mucosa* was a common finding. It was never limited to the stomach to suggest enteropathy, for example, menitrier's disease. Due to associated pain and discomfort, most of these cases were thought to be due to gastritis but this is a relative sign. Corrosive gastro oesophagitis is relatively common in three patients. This was accidental in two and due to caustic local medicine in one of them.

Achalasia is surprisingly common in this sub region and the most common positive finding in patients with *dysphagia*. Apart from the rare carcinoma, spondylodysphagia¹, most patients with this complaint presented with physiological derangement for example globus, dysautonomia, presby-esophagus etc.

In this preliminary study, the incidence of various abnormalities in the upper

gastro intestinal tract have been shown in a small series reflecting the pattern of presentation in this sub-region.

No socio-economic class bias was established for any entity^{1,6}. In Tables 5 & 6. a strong bias in age distribution however, is evident. The highest number of referrals and positive findings were in the 20-30 year age group^{1,5}. This is a significant finding, since it is relatively a younger preponderance compared with Western experience¹.

Compared with immediate war experience, our study confirms a sustained high incidence of duodenal ulcer but with a downward trend in prevalence. This we believe is probably stress related due to prevailing social circumstances. We hasten to add that the economic crisis has not produced more peptic ulcers in our series¹, other factors are clearly operative and may include dietary habits.

CONCLUSION

In this study, we observed:

- 1 low incidence of gastro-esophageal reflux and hiatus hernia.
- 2 relatively high incidence of achalasia
- 3 very high incidence of gastric ulceration
- 4 rarity of post-bulbar ulcers.
- 5 higher incidence of lymphomas than gastric cancers
- 6 high incidence of peptic ulcers in 21-30 age group.

Emphasis on different conditions have been highlighted and this include the absence of conditions seen elsewhere. For example, in our studies, *atrophic gastritis* was never seen.

Table:1
Radiological Findings

Symptoms	% of Patients	Carcinoma	Peptic ulcer	Reflux	Negative
Pain	45 (66%)	-	16 (20%)	-	-
Heart burn	9 (11%)		17 (21%)	5 (6%)	-
Fullness	32 (40%)	-	-	-	-
Abdominal discomfort	39(48%)	1	-	-	-
Upper GIT bleeding	4 (5%)		1	1	-
Vomiting	21(26%)		-	-	

TABLE 2
Shapes of Stomach

Period of study	No. of D.Ulcers	Shape of Stomach		Resting juice	I. Cap	Gastric outlet obst	Total No.
		J shape	C-shape				
1980	19	76	23	5	3	1	127
1981	21	68	16	4	6	3	118
1982	14	87	25	3	4	3	136
Total	54	231	64	12	13	7	381

TABLE 3.
Anatomic variants of stomach shapes.

	C-shape	J-shape	Cascade
Males	27	6	19
Females	19	17	5
Total	46	23	24

TABLE 4.
Incidence of Lesions within the period of study.

Type of lesions	Number of cases	Percentage of the Total
1.Peptic Ulcer		
a) Duodenal	54	14
b) Gastric	1	-
2.Gastro-Oesophageal reflux	2	-
3.Hiatus hernia	-	-
4.Miscellaneous	3	0.8
a) lymphoma	4	1.1
b) duodenitis	7	1.8
c) tertiary contraction	5	1.3
d) achalasia	1	-
e) calculoma carcinoma	1	-
i) stomach	3	0.8
ii) oesophagus		
f)corrosive gastritis and oesophagitis	3	

TABLE 5
Age distribution of referred cases.

Males	Age (in years)	Females	Age (in years)	Total
10-20	27	10-20	12	39
21-30	55	21-30	84	139
31-40	50	31-40	66	116
41-50	30	41-50	18	48
51-60	20	51-60	-	20
above 60	16	above 60	3	19
				Total: 381

TABLE 6
Age distribution in patients with duodenal ulcer

Range of patient's age	Number of patients
10-20	6
21-30	28
31-40	10
41-50	6
51-60	4

REFERENCES

1. Umerah BC, Singarayar J, Ramzan M, Kisumbi S. Incidence of Peptic Ulcer in the Zambian African A radiological Study. *Medical Journal of Zambia*. 1978 12;117 118.
2. Kolawole TM Solanke T. Duodenal Ulcers in Ibadan, Nigeria.
3. Angate Y. *Med. Afr.* 1971 88: 213.
4. Bohrer S.P, Solanke T., Williams A.O *Br. Med. J.* 1968; 515
5. Gogler H. *Trop. & Geog. Medicine* 1973; 25: 335.
6. Silen W. *Harrison's Principles of Internal Medicine* 1974; 7: 1434