

CLINICO-PATHOLOGICAL REVIEW OF MALIGNANT GASTRIC TUMOURS IN LAGOS, NIGERIA

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BACKGROUND:

- Gastric cancer is one of the most common cancers and the 2nd most common cause of cancer deaths worldwide¹.
- The incidence varies worldwide, in relation to *H. pylori* infection, a class1 carcinogen²

- 1. Parkin DM, Bray FI, Devesa SS. Cancer burden in the year 2000- the global picture. Eur J Cancer 2001; S4-S66.
- 2. IARC monographs on evaluation of carcinogenic risks to humans. Schistosomiasis, liver flukes and H pylori. Lyon, IARC 1994; 61:177-241.

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- However, several reports have indicated dissociation between the prevalence of *H. pylori* infection and associated diseases in some geographical regions such as Africa and India^{3,4}
 - Available report indicates that gastric cancer is relatively uncommon in Nigeria despite high prevalence of *H. pylori* infection of about 80%⁵

- ³. Goh KL, Cheah PL, Md N, Quesk KF, Parasakthi N Ethnicity and *H. pylori* as risk factors for gastric cancer in Malaysia: A prospective case control study. *Am J Gastroenterol.* 2007 Jan;102(1):40-5.
- ⁴. Luis E, Leen-jan V O, J Luis R, Pelayo C. Virulence-associated genotypes of *H. pylori*; do they explain the African enigma? *Am J Gastroenterol* 2006; 97(11) 2839-2840.
- ⁵. Oluwasola AO, Ogunbiyi JO. Gastric cancer; etiological clinicopathological and management patterns in Nigeria. *Nig J Med* 2003; 12(4) 177-186.

OBJECTIVE :

- To describe the histopathological features of gastric cancer diagnosed in Lagos,
- determine the prevalence of associated chronic gastritis and H pylori infection in gastric adenocarcinoma and
- Evaluate the value of alarm features in diagnosis

METHODOLOGY

- This was a retrospective clinicopathological study of all gastric cancer cases seen between 1995 and 2007 in Morbid Anatomy dept of Lagos University Teaching Hospital as well as two other private histopathology laboratories in Lagos (2002-2007).
- The blocks and slides of gastric cancer tissue were the materials used for the study.
- The patients' bio data and clinical details (particularly the so called 'alarm features') were extracted from the demographic records.

Methodology cont.

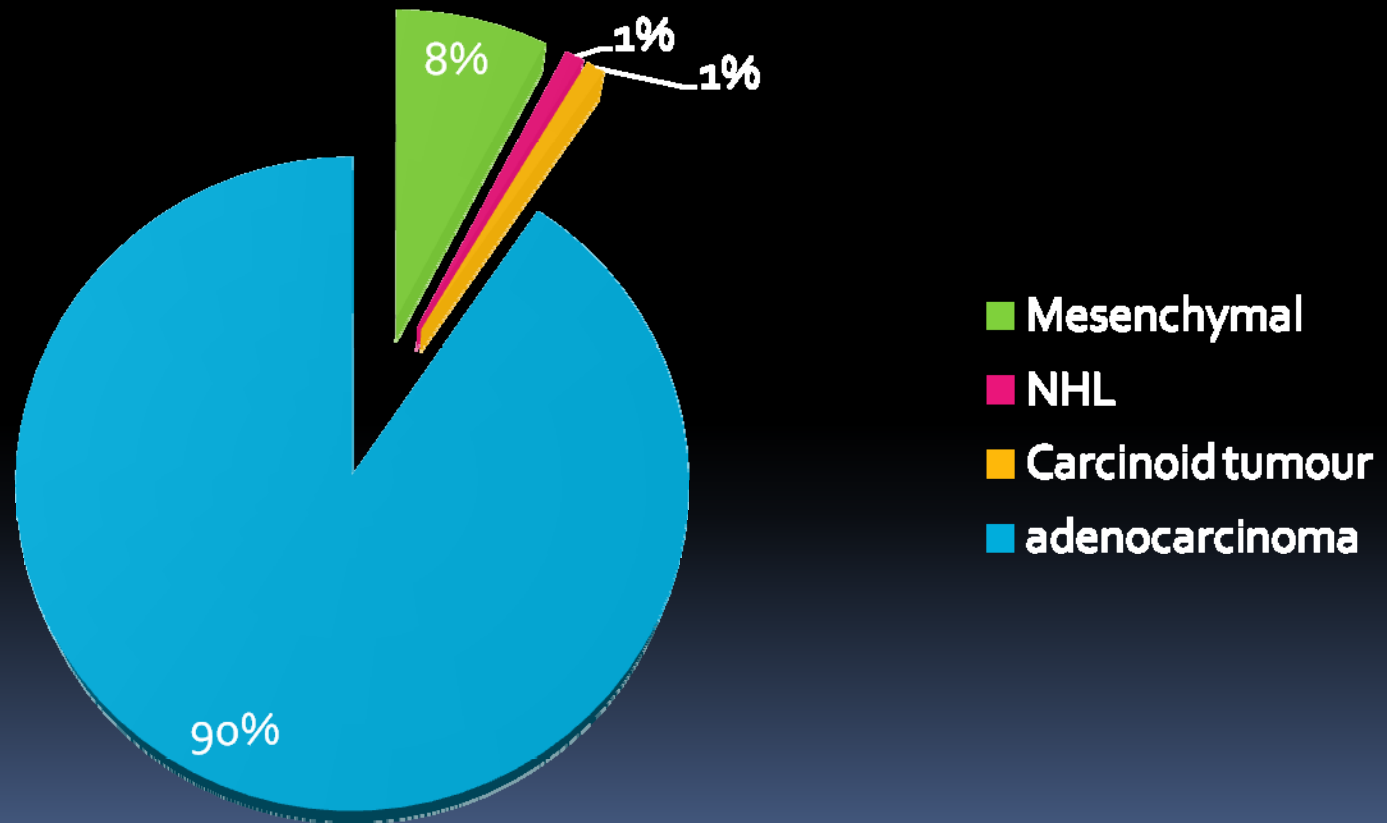
- The H&E stained sections of the tumour were reviewed to histologically type and grade the tumour and to ascertain presence of gastritis with or without intestinal metaplasia in adjacent non-neoplastic gastric tissue.
- Modified Giemsa stain was utilized to demonstrate the presence of *H.pylori* infection in 45 cases that had adjacent normal gastric mucosa.
- Immunohistochemistry was carried out on 8 cases of sarcomas at the Research laboratory of the Leeds General infirmary, Leeds, United Kingdom to further characterize the c-kit positive GIST among them.

RESULTS :

- There were 105 cases of gastric cancer; 15 of which were gastrectomy samples, others were endoscopic samples
- It was the 3rd most common GIT tumours representing 14% of GIT tumours and 1.64% of all 6414 malignant cases recorded during the period (in the three laboratories)
- M:F=2:1, age range 23-79yrs, mean age-55.3years, 81% of which occurred above the age threshold of 45yrs.

There were 95 cases (90%) of adenocarcinomas, 8 (7.6%) mesenchymal tumours with one case each of small cell non-Hodgkin's lymphoma and carcinoid tumour.

histological types of tumour



Type	Intestinal	Diffuse
Frequency	57(60%)	38(40%); Out of which 12 cases (12.6%) were signet ring carcinoma
Mean age	54.6yrs	55yrs
M:F ratio	2.7:1	1.2:1

Association of chronic gastritis & H. Pylori infection with adenocarcinoma

Chronic Gastritis	16 of 45 cases(36%)
Glandular atrophy	5 of 45 cases(11%)
Intestinal metaplasia	10 of 45 cases(22%)
H.pylori	7 of 45(15.5%)

Mesenchymal tumours

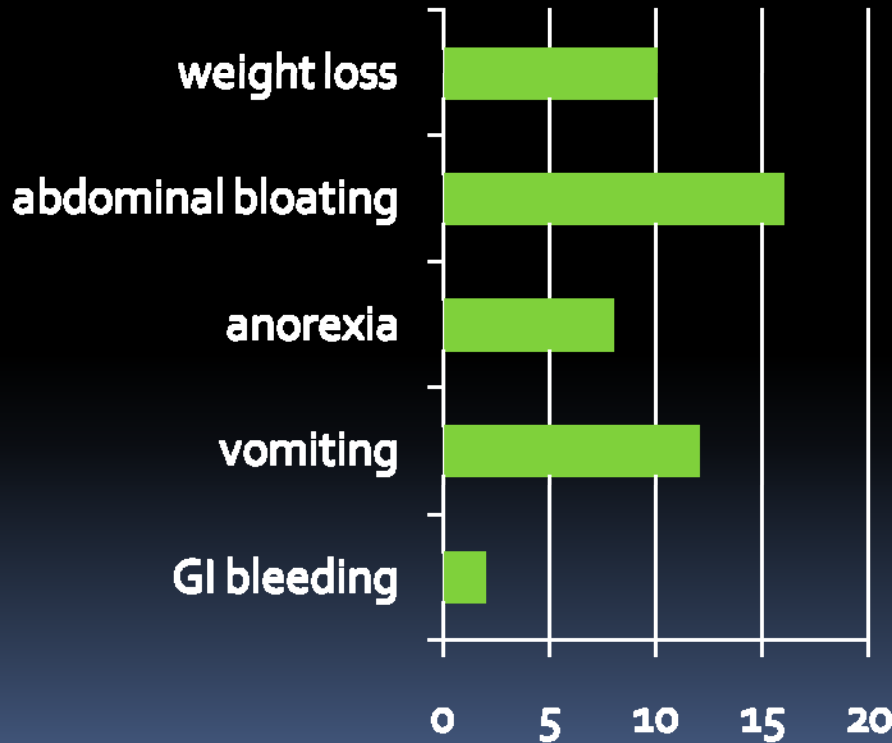
- There were 8 cases of malignant gastric mesenchymal tumours with mean age of 63.5yrs (M:F=1.6:1).
- Five of the 8 cases (62.5%) turned out to be GIST with strong positivity to C-kit and CD34.
- The other two cases were leiomyosarcoma, positive for desmin and smooth muscle actin.

Review of presence of alarm symptoms & signs

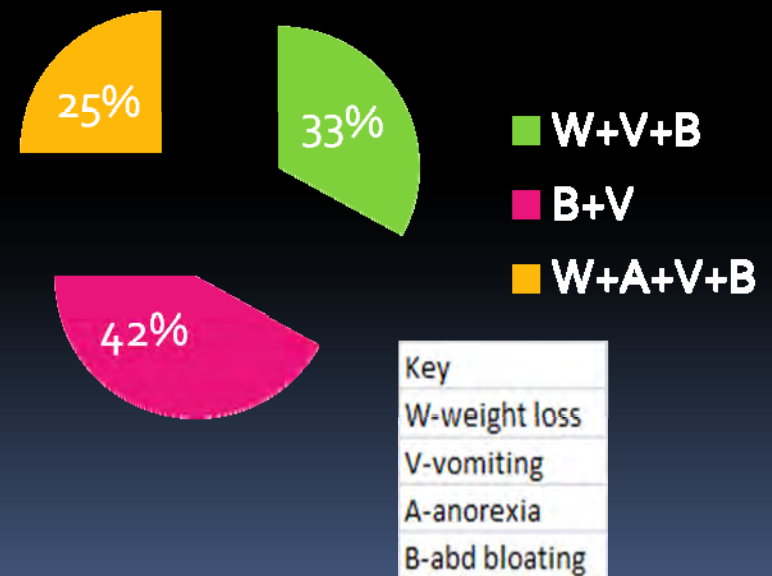
- All the 19 patients whose cases notes were analyzed had one or more alarm features; most recurring being
 - abdominal fullness,
 - recurrent vomiting,
 - weight loss and anorexia.
- Its been shown that presence of 'Alarm features' in patients >45yr is more likely to be associated with gastric cancer

Review of presence of alarm symptoms & signs in 19 patients

frequency of individual clinical features



Frequency of combination of clinical features



CONCLUSION

- Overall prevalence of 1.64% for gastric cancer in this study compares relatively with 2-3.9% recorded in previous studies from Nigeria and 2.4% from Australia
- The male preponderance, mean age in 6th decade and predominance of adenocarcinoma, the intestinal type also concur with reports in African literature

- 6. Holcombe C, Babayo U. The pattern of malignant disease in North East Nigeria. Trop & Geogr Med. 1991 Jan-Apr; 43(1-2):189-192.
- 7. Okobia MN, Aligbe JU. Pattern of malignant diseases at the University of Benin Teaching Hospital. Trop. Doct. Apr 2005 35(2): 91-92.
- 8. CANSTAT. Cancer in Victoria 2003. Issue 41. Victoria: The Cancer epidemiology Center, The Cancer Council Victoria, 2004.

Conclusion cont.

- 36% of adenocarcinomas were associated with chronic gastritis while 15.5% showed evidence of H.pylori infection; the latter figure corroborating 17.9% recorded earlier from Ibadan, SW Nigeria.
- Majority(>80%) of cases occurred above the threshold of 45yrs and often manifest with alarm features which should raise a suspicion particularly in our setting with poor diagnostic endoscopic facilities; improve the chances of early detection and overall diagnostic yield.

- 9. Oluwasola A.O, Ogunbiyi J.O. Helicobacter pylori-associated gastritis and gastric cancer in Nigeria. India J Gastroenterol 2003 Nov-Dec ;22(6):212-4.