Cancer of the Stomach in the African

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SUMMARY

Ninety-eight cases of histologically proved cancer of the stomach have been reviewed. This condition is probably more common in the African than has been recorded. In the present series it occurred more frequently in Africans born in Malawi, as compared with controls. The clinical features are described. Surgery offers the only hope of cure or adequate palliation.

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In certain countries the incidence of cancer of the stomach is high and second only to cancer of the lung as the most common malignancy occurring in males. The incidence of gastric carcinoma in Africa has not been clearly determined. Davies[1] reported the occurrence of this disease in large numbers of the Kivu in Uganda, but in most other parts of Africa cancer of the stomach has been less frequently seen. The main clinical and morphological features of 98 cases of histologically proved cancer of the stomach are reported here.

PATIENTS AND MATERIALS

The case notes of all patients diagnosed as having cancer of the stomach and seen at Harari Hospital, Salisbury, between January 1967 and December 1971, were examined.

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The main study deals with 98 patients who had histological evidence of carcinoma of the stomach. Twenty-four patients had good clinical and radiological evidence of gastric neoplasm, but as histological evidence was not available they were not included in the analysis. The age, sex, country of origin, size and site of tumour clinical features, principles of management, and the prognosis for the histologically proved cases were recorded when such information was available. Seven other patients presented with malignant mesenchymal tumours of the stomach during the period under review.

RESULTS

Age, Sex, Country of Origin

Fifteen patients were less than 40 years old; 80 were between 40 - 70 years, and 3 were more than 70 years of age at the time of admission to hospital. The majority were males (73).

The name of the country of origin was available in all cases: 68 (69,4%) patients were born in Rhodesia, 21 (21,4%) in Malawi, and 9 (9,2%) in Mozambique. The actual incidence from a particular country of patients with cancer of the stomach should be compared with the incidence of patients admitted to the same surgical wards for conditions other than cancer of the stomach (Table I). Hospital admissions for cancer of the stomach were more frequent for patients from Malawi than from Rhodesia.

Clinical Features

In 85 cases information about abdominal pain was available. Only 4 patients had no pain. In 77 patients the site

TABLE I. COUNTRY OF ORIGIN OF PATIENTS WITH CANCER OF THE STOMACH, AND OTHER SURGICAL DISEASES

	Cancer of the stomach	Other surgical diseases
Rhodesia	68 (69,4%)	782 (81%)
Malawi	21 (21,4%)	106 (11%)
Mozambique	9 (9,2%)	77 (8%)
Total	98	965

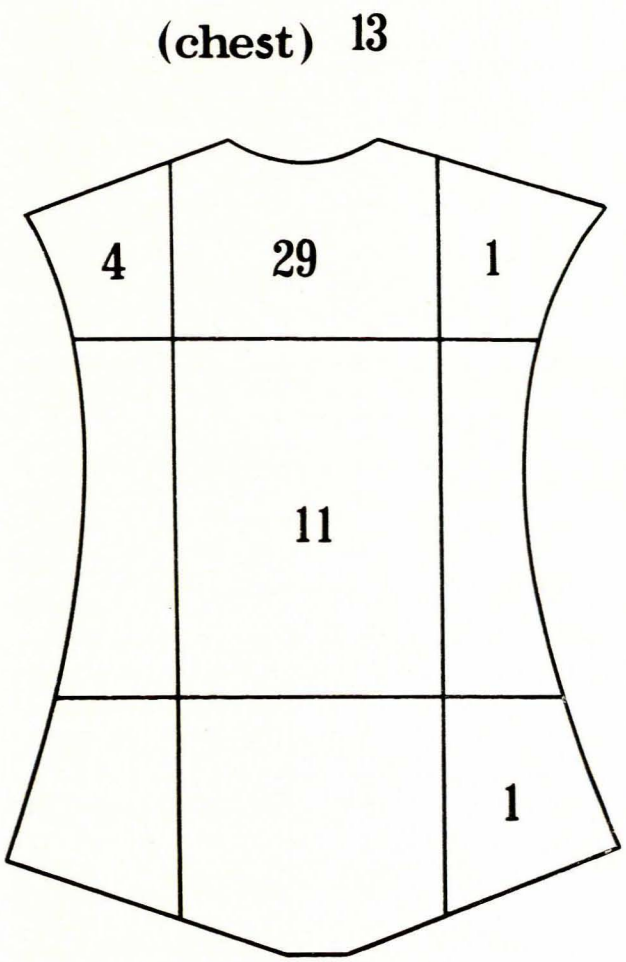

Fig. 1. Sites of tumour in 77 cases of gastric carcinoma. In 18 patients pain was noted at multiple sites.

of pain was recorded as in Fig. 1. The case notes were inadequate regarding the severity or the nature of the pain. Other common clinical features were weight loss, epigastric tenderness, vomiting, and anorexia (Fig. 2). Nine patients presented with haematemesis, and 2 with perforation of the stomach. Constipation was a marked feature in 26, and diarrhoea in 6. In 26 cases (27%) abnormal cervical lymph nodes were palpable; in 20 patients the glands were on the left and in 6 on the right. An abdominal tumour before surgery was noted in 17 patients.

The haematological findings were as follows: of 92 patients studied 35 had a haemoglobin level of <10 g/100 ml; 33 from 10 to 12 g/100 ml; and 24 > 12

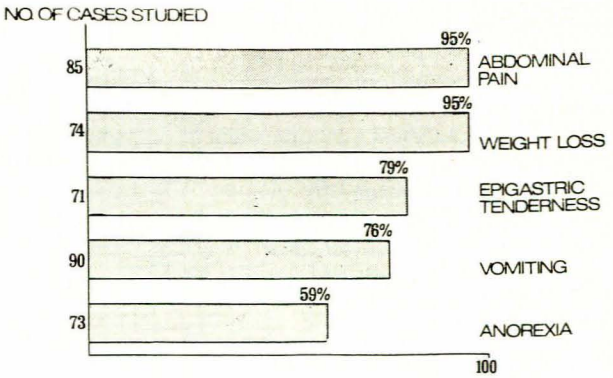

Fig. 2. Main clinical features in patients with carcinoma of the stomach.

g/100 ml. In 46 patients studied the erythrocyte sedimentation rate was < 10 mm/h in 10; 10 - 40 mm/h in 10; and >40 mm/h in 26 patients. Of 57 patients studied, 17 (29%) were in blood group A; 9 (16%) in group B; 4 (7%) in group Ab, and 27 (47%) in group O. In 4 626 controls studied,[18] 20% were in blood group A, 27% in group B, 4% in group Ab and 49% in group O.

Laparotomy was performed on 71 patients and major gastric surgery on 58; 43 patients required a distal partial gastrectomy, 12 a proximal partial gastrectomy, and 3 a total gastrectomy. At operation there was evidence of a spread of tumour to lymph nodes in 38, the liver in 23, omentum in 8, and peritoneum in 6 patients. The main site of the stomach involved by tumour, is shown in Table II.

TABLE II. MAIN SITES OF STOMACH INVOLVED BY TUMOUR (69 CASES)

Pylorus	47
Lesser curvature	9
Greater curvature	5
Proximal stomach	4
Whole stomach	4
Total	69

Prognosis

It is impossible to determine the prognosis for this series of patients, as many failed to attend the outpatient clinic after operation. The large number of cases showing local infiltration suggests, however, that the prognosis is poor.

DISCUSSION

The incidence of carcinoma of the stomach shows a marked variation for different parts of the world. It is common in Russia, Chile, Japan, and Austria. The standardised death rate for gastric cancer is 50 per 100 000 of the population in Finland, 22 per 100 000 in the USA Negro

population, and only 12 per 100 000 in the USA White population.[2]

In Africa the actual incidence of cancer of the stomach is probably much higher than that reported, as patients often fail to seek medical attention when afflicted by serious disease. Furthermore, in order to diagnose cancer of the stomach, specialised diagnostic facilities are required, and these are not always available in some countries.

Cancer of the stomach has been reported relatively infrequently in Egypt, Kenya, Mozambique and certain parts of West Africa; it occurs in larger numbers in Ibadan, Nigeria,[3] Kivu, Uganda,[1] and in Johannesburg. In this report gastric carcinoma is shown to be relatively more common among the foreign Africans than among those born in Rhodesia. The Africans born outside Rhodesia come from less-developed countries. These findings are in keeping with those of Wynder[5] who reported an increased incidence of cancer of the stomach in the lower socio-economic groups in the USA, England, and Denmark.

The exact cause of cancer of the stomach is not known. Wynder[5] examined the epidemiological distribution of this disease and noted that a high incidence occurred in countries where the diet was high in carbohydrate, but low in fat, fresh fruit, and vegetables. Haensgel[6] attributed the marked decrease in the incidence of cancer of the stomach in the USA to the concomitant increase in the consumption of meat, vegetables, and milk.

Segi[2] observed that alcohol consumption was higher and irregular meals more common among patients suffering from cancer of the stomach than in a control group. Dungal[7] was of the opinion that the consumption of carcinogenic polycyclic hydrocarbon in smoked salmon and trout consumed in certain districts of Iceland, could be correlated with gastric carcinoma. Gastric carcinoma occurs more frequently in people with blood group A.[4] In the present series there were only a slightly larger number of patients with blood group A.

Gastric carcinoma may develop from a papilloma, gastric ulcer[8] or in atrophic gastritis.[9] Patients with pernicious anaemia are 10 - 20 times more prone to carcinoma than the normal population.[9]

Radiological investigation remains the most widely used technique available for detecting carcinoma of the stomach. Use of the fibre-optic gastroscope improved diagnostic accuracy, which approaches 96% in Japan.[10] Cytological examination may be helpful in establishing an early diagnosis, but false positive and false negative results have been recorded.[11] Acid secretion studies are occasionally helpful, and if hypochlorhydria or achlorhydria are found, a barium meal gastroscopy should be undertaken. Radioactive phosphorus is selectively concentrated by tumour tissues and in the stomach it can be measured by means of a miniature Geiger-Mueller counter; this measure awaits further evaluation.[12]

The prognosis for gastric carcinoma is a 5-year survival rate in 95% of patients if the tumour is superficial. Although superficial, carcinomas account for less than 5% of all cases, and they have a good prognosis even when lymph nodes are involved.[9] The 5-year survival rate of patients who have involvement of the subpyloric glands is only 5%, but for those with less extensive tumour spread, it is much more favourable. The outlook is better when the history is longer, acid secretion is present, the tumour is proliferative and situated in the distal part of the stomach, differentiation is present, and metastases are absent.

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