

# Gastric carcinoma at Tygerberg Hospital, 1979 - 1983

## A retrospective study

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### Summary

A retrospective study was carried out on patients with histologically proven gastric carcinoma diagnosed at the Gastro-intestinal Clinic, Tygerberg Hospital, over a 5-year period — 1979 - 1983. Fifty per cent of patients were coloured men. The overall median age was 65 years but the coloured patients were significantly younger than the white. The main symptoms were loss of appetite and weight, abdominal pain and vomiting. The median duration of symptoms in all patients was 3 months. An abdominal mass, anaemia and obvious weight loss were the most important physical signs. A normocytic, normochromic anaemia, an elevated erythrocyte sedimentation rate, raised liver enzyme levels and hypo-albuminaemia were the most important laboratory findings. In 96% of the 149 patients gastroscopy yielded a positive diagnosis of gastric carcinoma and barium meal examination showed abnormalities in 87%. In the majority of cases the carcinoma was poorly differentiated.

*S Afr Med J* 1985, 68: 949-950.

Bradshaw *et al.*<sup>1</sup> reported a high incidence of gastric carcinoma in coloured men; a retrospective study was therefore carried out to review the clinical picture of gastric carcinoma at the Gastro-intestinal Clinic at Tygerberg Hospital.

### Patients and methods

In a retrospective study of the 5-year period 1979 - 1983 we reviewed 245 patients who had been referred to the Gastro-intestinal Clinic at Tygerberg Hospital with the presumptive diagnosis of gastric carcinoma. The four criteria used to confirm the diagnosis were clinical, radiological, gastroscopic and histological findings.

In this study only histologically proven cases are included. The available data from the clinic files on these cases were processed by computer.

The purpose of the study was to review: (i) the race, age and sex of the patients; (ii) the main presenting symptoms; (iii) the main clinical findings; (iv) results of appropriate special investigations; (v) the histological spectrum; and (vi) the most vulnerable anatomical area in the stomach.

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### Results

Patients were selectively referred to the Gastro-intestinal Clinic. An average of 49 patients a year with the preliminary diagnosis of gastric carcinoma was investigated. Of the total of 245 possible cases, 149 patients (61%) were subsequently found to have histologically proven gastric carcinoma. Positive histological confirmation could not be obtained in 96 patients because of failure to obtain consent for endoscopy, risk factors related to the procedure and equivocal histological findings. These cases were excluded from the study.

About 50% of the patients attending the Gastro-intestinal Clinic with gastric carcinoma were coloured men; only 1 black woman and 1 black man had gastric carcinoma (Table I). The median age varied with the race and sex (Table II). The median age of all patients was 65 years but the coloured patients were significantly younger ( $P < 0,0001$ ). Fifteen patients under 40 years of age had proven gastric carcinoma; 7 of these patients were coloured men, 7 coloured women and 1 a white man, the youngest patient being a 16-year-old coloured girl.

TABLE I. RACE AND SEX OF PATIENTS

	No. of patients	%
Coloured males	74	49,6
White males	33	22,1
Coloured females	21	14,1
White females	19	12,8
Black males	1	0,7
Black females	1	0,7
Total	149	100

TABLE II. MEDIAN AGE OF THE 149 PATIENTS

Race, sex	No. of patients	Median age (yrs)
White females	19	73
White males	33	73
Blacks	2	71
Coloured males	74	60
Coloured females	21	52
All patients	149	65

The main presenting symptoms are shown in Table III in order of primary significance at the onset of the disease. Loss of appetite and loss of weight with abdominal pain and vomiting were the most important features, with a median duration of 3 months. An abdominal mass, anaemia and obvious weight loss were the most evident features on clinical examination (Table IV). Most of the patients had more than one symptom or sign.

Details of full haematological investigations were available for 73 patients. The majority (39,7%) had a normocytic,

TABLE III. PRESENTING SYMPTOMS OF THE 149 PATIENTS

Symptoms	%
Loss of appetite/weight	65,8
Abdominal pain	42,3
Vomiting	40,9
Haematemesis/melaena	34,2
Fullness/dyspepsia	24,2
Dysphagia	10,1
Heartburn	4,7

TABLE IV. PRESENTING SIGNS (127 PATIENTS)\*

Sign	%
Abdominal mass	26,0
Anaemia	25,2
Weight loss	21,3
Liver enlargement	11,8
Abdominal tenderness	9,4
Virchow Troisier's sign (enlarged left supraclavicular gland)	4,7
Positive 'splash'	4,0
Ascites	2,4

\*There were no clinical signs or they were not documented in 22 patients.

normochromic anaemia (mean haemoglobin value in men < 14,0 g/dl and in women < 12,0 g/dl) with a median haemoglobin value of 11,0 g/dl. Microcytic anaemia (mean corpuscular volume < 77 fl) was a feature in only 28,7% of patients. Four per cent of patients had a macrocytic anaemia (mean corpuscular volume > 93 fl). Of the 63 patients whose erythrocyte sedimentation rate was measured, 36 (57%) had an elevated rate. Elevation in liver enzyme levels and hypo-albuminaemia was evident in the majority of cases (58% of 95 and 57% of 98 patients respectively).

Barium studies were requested after the presumptive clinical diagnosis of gastric carcinoma. The barium meal radiographs showed abnormalities in 87% of the 149 patients and gastroscopy yielded a positive diagnosis in 96%; in 4% the diagnosis was made only at laparotomy.

Histologically confirmed gastric carcinoma was the final and absolute criterion for diagnosis in this series, and in the majority of patients (36,2%) a poorly differentiated carcinoma was present (Table V).

## Discussion

The coloured male of the Western Cape is especially at risk<sup>1</sup> and has the highest incidence of gastric carcinoma in the RSA and the fourth highest rate in the world.<sup>1-3</sup> In contrast with other racial groups there has been no decrease in incidence, and a significant geographical distribution<sup>3</sup> is evident. Strong geo-environmental forces may be of importance in the Western Cape.

The majority of our patients were coloured men; this is in accordance with the findings of Dent and Vader,<sup>4</sup> who described an incidence of 44,2%. The median age of the coloured patients at our clinic was significantly lower than that of the whites ( $P < 0,0001$ ).

The presenting symptoms were consistent with those described by McNeer and Pack<sup>5</sup> and Kelsey,<sup>6</sup> and are suggestive of advanced disease. The clinical features and laboratory in-

TABLE V. HISTOLOGICAL INVESTIGATION OF THE GASTRIC CARCINOMA IN 149 PATIENTS

Result	%
Well-differentiated	8,7
Moderately differentiated	18,1
Poorly differentiated	36,2
Undifferentiated	15,4
Signet ring	14,1
Mucus-secreting	7,4

vestigations again suggested advanced disease. None of our patients was asymptomatic.

The most common histological type of gastric carcinoma is a poorly differentiated adenocarcinoma. The findings are consistent with those of Morson and Dawson.<sup>7</sup>

Less than 10% of patients with advanced disease can be expected to be cured by surgery in contrast to a 95% 5-year survival rate in early gastric carcinoma.<sup>8</sup>

Van Rensburg<sup>9</sup> suggested that strong geo-environmental forces may be implicated in the Western Cape. Food high in nitrate and salt content may be associated with this observation, but no formal study has been carried out.

Screening of patients for early gastric carcinoma may be of value in the diagnosis of early carcinoma in high-risk populations such as those of Japan and the Western Cape. Carcino-embryonic antigen and enzymatic estimations on gastric juice show promising results as screening techniques.<sup>10-12</sup> A recent local study by Armstrong *et al.*<sup>13</sup> showed, however, that determination of gastric juice L-lactate, D-lactate and lactate dehydrogenase levels may be of limited value in the early diagnosis of gastric neoplasia because of low sensitivity and moderate specificity. We are continuing investigations into this condition: (i) to define possible aetiological factors; and (ii) to investigate methods for the earlier diagnosis of gastric carcinoma.

We wish to thank Drs S. Walsh and S. Brink for their help with the statistics.

This study is part of an M.D. thesis to be submitted to the University of Stellenbosch.

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