

# Gastric carcinoma in Durban's Indian population

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## Summary

Histologically proven gastric carcinoma was studied to establish the incidence and pattern of the disease in the Indian population of Durban. The incidence in this population was found to be low, 6,9/100 000/year. Over a 7-year period (1980 - 1986) 115 patients were treated for gastric carcinoma at R. K. Khan Hospital. There was a male preponderance, and the average age at presentation was 56 years. The commonest presenting symptoms were dyspepsia and vomiting, and the majority of patients presented with advanced disease. Only a third underwent resection, a third had no treatment, and a third underwent palliative bypass or laparotomy only. The majority of patients who had a palliative bypass or no treatment died within 9 months. The 5-year survival rate for patients undergoing curative resection was 38% and for palliative resection 9%. To improve survival, emphasis must be on early diagnosis and it is recommended that any patient with dyspepsia who is over the age of 30 years should have an endoscopic investigation.

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Gastric carcinoma in South Africa has a definite pattern of distribution. It is most frequent in the coloured population of the western Cape, with an annual incidence among males of 49,9/100 000.<sup>1,2</sup> This group has the fourth highest incidence of carcinoma of the stomach in the world. Gastric carcinoma is uncommon in blacks, whereas the incidence among whites is 22,1/100 000 for men and 10,6/100 000 for women.<sup>1,2</sup> The reported incidence among Indians is 20,9/100 000 for men and 10,9/100 000 for women, these figures being derived from death certificate notifications.<sup>1,2</sup> This, however, may be an over-estimate since not all these notifications represent histologically proven cases. Furthermore, the incidence of carcinoma of the stomach in all population groups is said to be lower in Natal than elsewhere in the RSA.<sup>1,2</sup> The incidence in India for a population resident in Bombay is 20/100 000 per year.<sup>2</sup> Ti<sup>3</sup> has shown a low incidence of gastric carcinoma in Singaporeans of Indian origin, as have Raju *et al.*<sup>4</sup> in West Indians of Indian origin. Carcinoma of the stomach has not so far been studied in the Indian population of South Africa.

The purpose of this study was to establish the incidence and review the pattern of gastric carcinoma in the Durban Indian population.

## Patients and methods

To establish the incidence of gastric carcinoma, information relating to all histologically proven cases in the greater Durban area was obtained from all local hospitals and pathologists for the period 1984 - 1986.

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The records of all patients with histologically proven malignant gastric tumours treated at R. K. Khan Hospital in Durban between 1980 and 1986 were analysed retrospectively to determine the pattern of presentation and outcome of treatment of the disease.

## Results

During the 3-year period 1984 - 1986, there were 101 histologically proven cases of gastric carcinoma in the greater Durban Indian population of 490 800.<sup>5</sup> This gives an annual incidence of 6,9/100 000.

Over the 7-year period 1980 - 1986, 115 patients at R. K. Khan Hospital had a histologically proven diagnosis of gastric carcinoma. Sixty-four per cent of the patients were males, with a male/female ratio of 1,7 : 1. The highest incidence was in the 6th and 7th decades of life, with the average age at presentation being 56,3 years (range 27 - 88 years).

The majority of patients presented with a combination of symptoms (Fig. 1), the commonest being dyspepsia (epigastric pain, fullness, discomfort or heartburn). Fifty per cent of patients also complained of vomiting or nausea, which usually denoted advanced disease. Four patients were asymptomatic and were found to be anaemic on routine examination. A small group of patients presented as surgical emergencies with peritonitis or bleeding. The duration of symptoms before presentation ranged from 3 to 12 months. In 64 cases (56%) the presentation was considered to be delayed and in half of these the delay in referral for treatment was due to the attending practitioner. Physical examination revealed signs commonly associated with a malignant gastric lesion (Fig. 2), although no abnormality was discovered in 30% of patients.

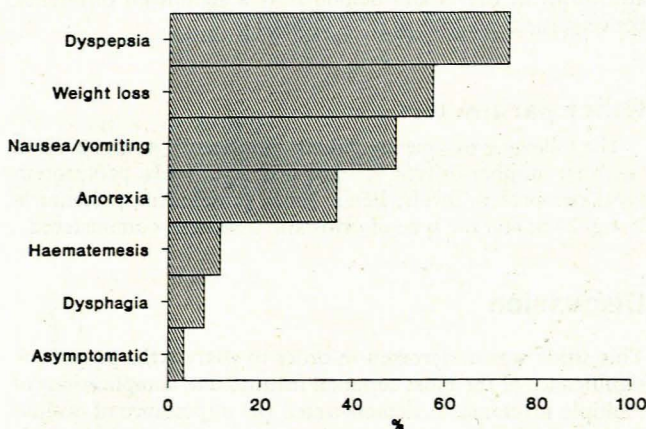


Fig. 1. Presenting symptoms of 115 patients with gastric carcinoma.

The commonest diagnostic investigation was gastroscopy, with complementary barium studies. Fifty-six patients (49%) were anaemic; of these 2 had macrocytic anaemia, while the rest were iron-deficient. Histological examination revealed adenocarcinoma in all 115 patients; in the majority of cases the tumour was either poorly differentiated or mucus-secreting (Table I).

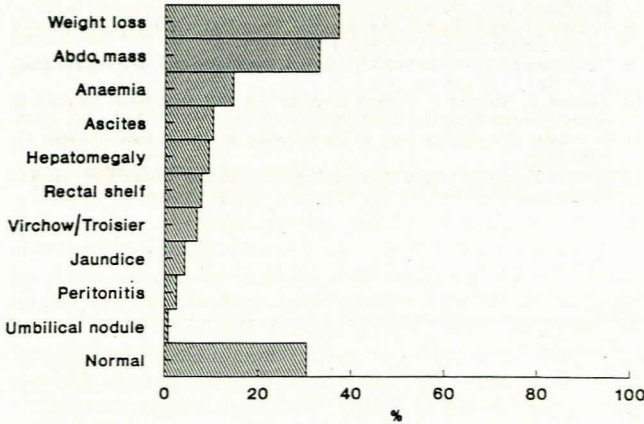


Fig. 2. Signs at presentation of 115 patients with gastric carcinoma.

TABLE I. HISTOLOGICAL GRADING OF GASTRIC ADENOCARCINOMA IN 115 PATIENTS

Type	No.	%
Well differentiated	20	17,4
Moderately differentiated	15	13,0
Poorly differentiated	27	23,5
Signet ring	7	6,1
Mucus-secreting	43	37,4
Not available	3	2,6

The site of involvement was the antral region in 61 patients (53%), the body in 26 patients (22,6%), and the cardia in 11 patients (9,6%); the whole stomach was involved in 8 patients (6,9%). In 9 patients the site of involvement was not documented. In 90% of cases the lesions were advanced, only 11 patients having a T1 - T3 lesion with no positive lymph nodes. Staging was based on the UICC TNM system.<sup>6</sup>

**Management**

Fifty-two per cent of patients underwent some form of therapeutic or palliative procedure. Of these patients, 15 had a 'curative' resection and 24 had a non-curative resection (Table II). Resection was considered to be 'curative' if the surgeon was confident that all macroscopic tumour had been removed. All patients who underwent resection were subjected to a course of radiation and chemotherapy.

TABLE II. MANAGEMENT OF PATIENTS WITH GASTRIC ADENOCARCINOMA

	No.	%
Resection, curative	15	13,0
Resection, non-curative	24	20,9
Bypass gastrojejunotomy	19	16,5
Celestin intubation	2	1,7
Laparotomy only	15	13,0
No operation	32	27,8
Refused treatment	8	6,9

**Outcome**

The majority of patients who had no treatment or underwent a bypass procedure died within 9 months.

Of the 39 patients who had a resection 4 died in the peri-operative period, 1 from pulmonary embolism and 3 from septic complications secondary to the presenting disease. The 5-year survival rate based on life-table analysis (Fig. 3) was 38% for curative resections and 9% for non-curative resections, the difference being significant ( $P < 0,025$ ) (log-rank test).<sup>7</sup>

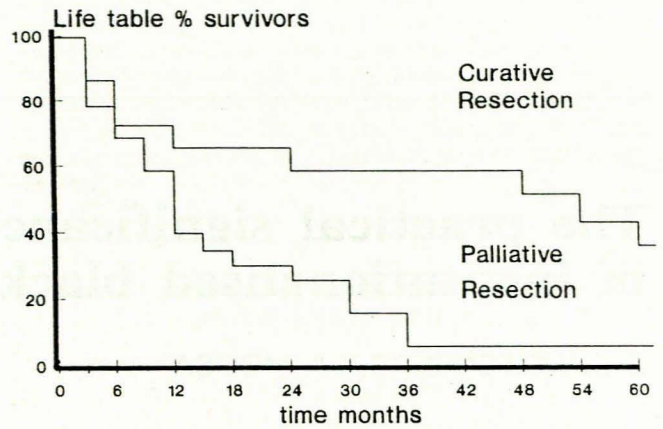


Fig. 3. Life tables for patients with gastric carcinoma undergoing curative resection and palliative resection. The numbers of patients still alive and under observation at entry and annually thereafter were: curative resection 15, 10, 9, 9, 8, 5; and palliative resection 24, 9, 6, 2, 2, 2.

**Discussion**

Patients presenting at R. K. Khan Hospital with carcinoma of the stomach usually have advanced disease, and most die within 9 months, following a palliative procedure. The age, presenting symptoms and signs, and male predominance of Indian patients with cancer of the stomach are similar to findings among South Africans of other race groups and Indians resident in India.<sup>8-11</sup> We have found the incidence of cancer of the stomach among Indians in Durban to be 6,9/100 000 per year, which is far lower than the reported incidence based on death certification.<sup>1,2</sup> This is similar to the incidence of 7,5/100 000 in Madras and Bangalore<sup>11,12</sup> and lower than that in Bombay, 20/100 000.<sup>2</sup>

The high proportion of patients with antral disease is in keeping with other studies. As in the coloured population of Cape Town, many patients had poorly differentiated adenocarcinoma, and the incidence of operative intervention for palliation or cure of 56%, the low rate of resectability and the associated poor 5-year survival rate are in keeping with experience elsewhere.<sup>8</sup>

There is usually a considerable delay before patients with dyspepsia seek medical attention. Furthermore, some patients with dyspepsia are treated with antacids for long periods without undergoing endoscopy. It is recommended that any patient who has dyspepsia and is over the age of 30 years should have an endoscopic investigation. A considerable amount of patient and doctor education is needed to facilitate early diagnosis so that resectable lesions can be dealt with promptly.

**REFERENCES**

1. Bradshaw E, Harington JS, McGlashan ND. Geographical distribution of lung and stomach cancers in South Africa, 1968-1972. *S Afr Med J* 1983; 64: 655-663.

2. Bradshaw E, Harington JS. The changing pattern of cancer mortality in South Africa, 1949-1969. *S Afr Med J* 1975; **49**: 919-925.
  3. Ti TK. Radical surgery for gastric and oesophageal cancer. *J R Coll Surg Edinb* 1968; **31**: 277-281.
  4. Raju GC, Naraynsingh V, Jankey N. Cancer of the alimentary tract in a West Indian population: a Trinidad study. *J R Coll Surg Edinb* 1987; **32**: 202-204.
  5. *South Africa 1987 - 1988*. 13th ed. Pretoria: Government Printer, 1988: 91.
  6. TNM. In: Harmer MH, ed. *Classification of Malignant Tumours*. 3rd ed. Geneva: UICC, 1987: 63-68.
  7. Peto R, Pike MC, Armitage P, Breslow NE *et al*. Design and analysis of randomised clinical trials requiring prolonged observation of each patient. *Br J Cancer* 1977; **35**: 1-39.
  8. Kruskal JB, McCully RN, Madden MV, Dent DM. Gastric carcinoma — a current clinical profile. *S Afr Med J* 1986; **70**: 7-10.
  9. Van Eeden PJ, Bezuidenhout DJJ. Gastric carcinoma at Tygerberg Hospital. *S Afr Med J* 1985; **68**: 949-950.
  10. Tandon R, Sharma V. Pattern of malignant gastro-intestinal tumours in Ajmer. *J Indian Med Assoc* 1986; **84**: 110-113.
  11. Paymaster JC. Cancer and its distribution in India. *Cancer* 1964; **17**: 1026-1034.
  12. *Annual Report*. National Cancer Registry, Indian Council of Medical Research, 1985: 9-19.
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