

# Adenocarcinoma of the stomach in a tertiary care hospital in Sri Lanka

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## Abstract

**Objectives** Adenocarcinoma of the stomach carries a dismal prognosis when it presents late. Our objective was to describe the location of the tumour, stage at presentation, resectability and survival in a cohort of patients with adenocarcinoma of the stomach, presenting to a tertiary referral centre.

**Design and setting** Data were collected retrospectively from all patients with gastric neoplasms who presented to the University Surgical Unit, Colombo South Teaching Hospital from May 2000 to October 2006.

**Results** Ninety three patients presented with malignant gastric neoplasms during this period. Majority (86/93) were adenocarcinomas. Mean age at presentation was 58.3 (range 33-83) years. Male to female ratio was 3.15:1. 52.6% of tumours were in the proximal stomach involving the cardia. Thirty per cent involved the body, and 17.5% the distal stomach. 93% had Stage III or IV disease at presentation. Twenty seven patients (32.5%) had resectable tumours with a mean survival of 25.3 months. Five year survival was less than 5%, in patients who were not offered surgical resection. There were no patients in our series with early gastric cancer.

**Conclusion** All our patients presented with advanced gastric cancer and the majority had unresectable disease. The high proportion of patients having proximal gastric carcinoma is similar to the recent changes seen in the west.

## Introduction

Gastric carcinoma was reported to be the fourth commonest cancer worldwide, in the year 2000 [1]. In Sri Lanka, 144 cases were reported in year 2000 [2]. There is little published information on the location of tumour, stage at presentation and resectability, and no data is available on survival.

The objective of this study, conducted at the University Surgical Unit, Colombo South Teaching Hospital, was to document the location, stage at presentation, resectability and survival in a cohort of patients with gastric adenocarcinoma presenting to a tertiary referral centre.

## Methods

The data were collected retrospectively from the unit's oncological database and by direct contact with patients and their families. There were 93 patients with malignant gastric neoplasms who presented from May 2000 to October 2006.

Eighty six (92%) of these were adenocarcinomas, 6.4% (n=6) gastrointestinal stromal tumours and one was a lymphoma. The male to female ratio was 3:1. They presented at a mean age of 58 years (range 33-83). Five were below the age of 40 years.

Tumour clearance was considered to be R<sub>0</sub> when microscopic tumour clearance and lymph node clearance was one level above the involved level, while R<sub>1</sub> clearance for microscopically positive margins or when the nodal clearance was same as the level involved.

## Results

### Resectability

Of the 83 patients suitable for surgery, 32 were found to have inoperable tumours on pre-operative investigations (figure 1). The remaining 51, underwent laparotomy but only 27 (32.5%) had resectable tumours. The commonest reason (84.7%) for non-resectability was local infiltration. R<sub>0</sub> tumour clearance was achieved in 5 cases while others had R<sub>1</sub> clearances. The average yield of lymph nodes was 9.2 for each patient with 22/27 cases having positive nodal involvement.

### Pathological features

Of 86 adenocarcinomas 63% were poorly differentiated and 31% were moderately differentiated; 39% were diffuse and 49% were intestinal according to Lauren's tumour type [3].

Proximal third of the stomach was involved in 52.6% of the cases, and 29.9% was in the middle third. The rest involved the distal third of the stomach. The mean maximum diameter of resected tumours was 6.3cm.

No early gastric cancers were detected, and 93% were stage III or IV at presentation (table 1).

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Table 1. The stage\* of gastric adenocarcinoma in our series

Stage	Percentage (n=83)
Ia	-
Ib	2.4% (2)
II	4.8% (4)
III	21.4% (18)
IV	71.4% (59)

\* Internationally unified staging for gastric cancer

**Survival**

Out of 86 patients survival data was available for analysis in 71 patients (figure 2). The mean survival in advanced unresectable patients (n = 56) was 5 months (range 1-24), and 5-year survival was zero. A mean survival of 25.3 months (5-60 months) and five-year survival of 13.8% was seen following gastric resection. The mean

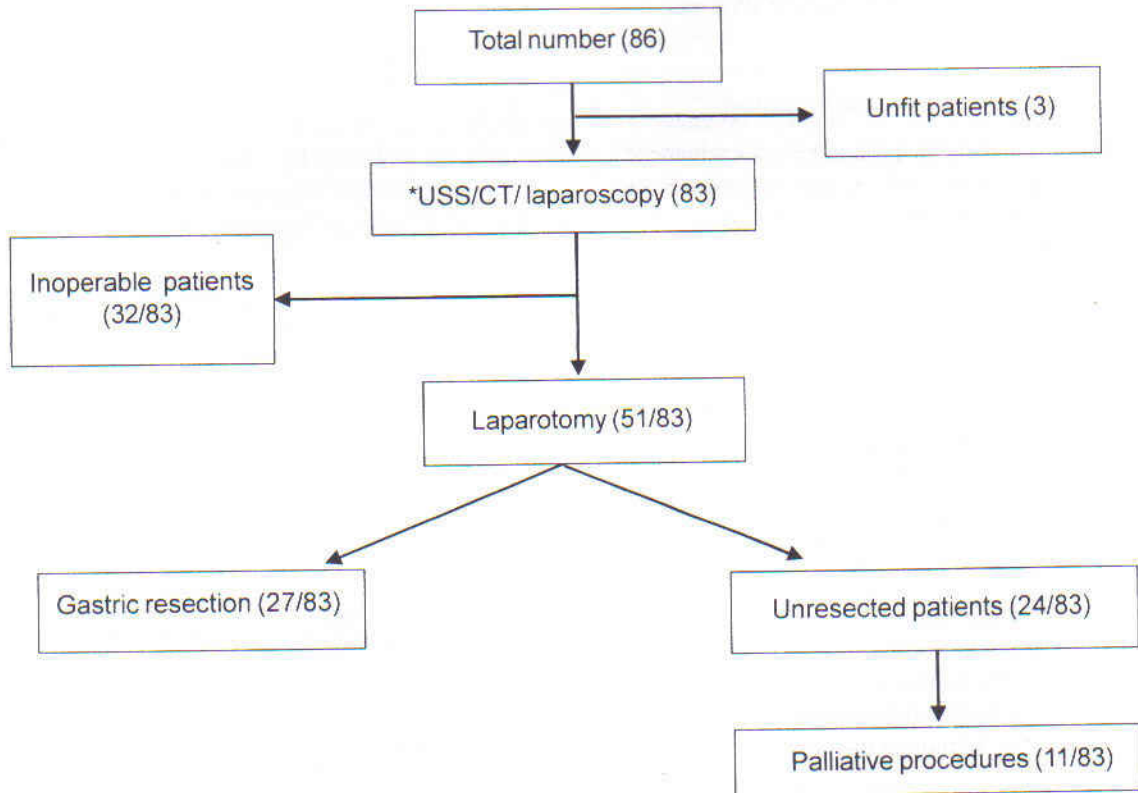
survival with positive and negative margins was 18.2 and 27.3 months respectively. In the resected group of patients (n = 27), in-hospital mortality was 7.4% (2/27).

**Discussion**

In our series, the mean age at presentation was 58 years. According to the Sri Lanka cancer registry and other available data, the mean age at presentation of patients with gastric cancer is between 50 and 55 years [2, 4]. In most western data the age at presentation is about one decade higher than ours [5, 6].

In 1984 at Nawalapitiya Base Hospital Dissanayake and Colombage reported that 74% of the tumours to involve the antrum of the stomach [4]. International data describe the change in the location of tumour from the antrum to cardia. Some series document that more than 50% of the tumours involve the proximal stomach [7, 8, 9]. In our series 52% of the tumours were found in the proximal third of the stomach.

Figure 1. The summary of management protocol and the interventions done



(\*USS/CT ultrasound/CT scan of abdomen)

Table 2. Comparison of results with 18 365 USA patients [6]

	Stage I	Stage II	Stage III	Stage IV	Resectability	Overall 5 year survival
Our series (n=86)	2.4%	4.8%	21.4%	71.4%	32.5%	4.8%
Wanebo et.al. (n=18365) [6]	17%	17%	35%	31%	70%	14%

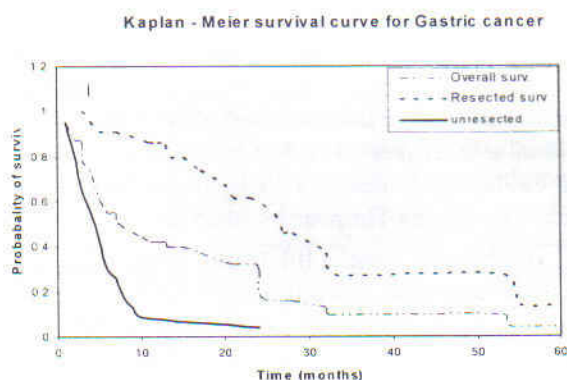


Figure 2. 5-year survival.

Seventy two percent of our series were stage IV at presentation and overall resectability was 32.5%. The overall 5-year survival is less than 5% and in resected patients the 5-year survival was 13.8%. The stage specific survival was not calculated because of the small sample size. In comparison, a large USA study [6] reported only 31% to be at stage IV at the presentation with a 70% overall resectability. Their overall 5-year survival was 14% and survival following resection was 19% [6].

## Conclusions

A majority of the tumours in our series involving the proximal third of the stomach is similar to the trends in other series. The patients presented at an advanced unresectable stage that resulted in a low overall 5-year survival rate (<5%). Awareness of gastric cancer needs to be increased in Sri Lanka, and studies should be carried out to identify the population at risk.

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