# Surgical Treatment of Gastric Cancer in the Elderly

## *YAŞLILARDA MİDE KANSERİNİN CERRAHI TEDAVİSİ*

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**Summary**

*Currently, gastric cancer still remains its popularity among gastrointestinal system malignancies in the elderly. Because aged patients are frequently suffering from underlying diseases, operative stresses subsequently may lead litem to a critical state such as operative death or complicated death.*

*In this study, 91 patients with gastric cancer over age of 70, were evaluated in terms of surgical treatment, preoperative symptoms, postoperative mortality and morbidity at General Siiigery Department of Ege University between 1989 and 1997, retrospectively. Whereas the mortality was seen in four patients with curative resection, the majority of complications were also seen in patients with resective surgery. As such for the most other surgeons, though high mortality and morbidity rates with not much significant changes in survival curves, it would be possible to say thai, with a careful evaluation and selection of patients and an adequate preoperative and also postoperative care, gastric surgery negleting the radiealily maybe in some special cases, may provide a high quality of life and good results with low operative risks in the elderly.*

Key Words: Gastric cancer, Surgery, Old age

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**Özet**

*Günümüzde mide kanseri, halen yaşlılardaki gastrointestinal sistem maligniteleri arasındaki sıklığını korumaktadır. Yaşlıların çoğunlukla şikayetçi olduğu yandaş hastalıkların varlığı ile ameliyatın yaratacağı stres, aperatif ölüm ya da koınplikasyon sonrası ölüm gibi ciddi durumlara neden olabilir. Bu çalışmada, 1989 ve 1997yılları arasında, Ege Üniversitesi Genel Cerrahi Kliniğl'ndeki 70 yaşı üzeri mide kanserli 91 olgu, cerrahi tedavi, preoperalif yakınmalar, postoperattf mortalité ve morbidité yönünden relrospektif olarak değerlendirildi. Mortalitetıln görüldüğü olgular küratif rezeksiyon uygulanmış dört olgu iken, koınplikasyonlartn çoğunluğu da rezektlf cerrahi uygulanan olgularda görüldü.*

*Diğer birçok cerrah gibi, yaşam eğrilerinde fazla belirgin değişiklik olmaksızın, yüksek mortalité ve morbidité oranlarına rağmen, dikkatli bir hasta değerlendirmesi ve seçiminin yanında yeterli peri ve postoperatij baktın ile radika/itenin ihmal edildiği belki bazı özel vakalarda uygulanacak mide cerrahisinin, yaşlı hastalarda düşük operatif risklerle iyi sonuçlar ve kaliteli yaşam sağlayacağını söylemek mümkün olabilir.*

Anahtar Kelimeler: Mide kanseri, Cerrahi, İleri yaş

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In the past few years, medical progress as well as improved social conditions have led to a considerable increase of life expectancy in the industrialized nations. Recent studies have shown a significant increase in the number of patients with gastric cancer in the seventh decade (1). In the United States, more than 50% of patients newly diagnosed with gastric cancer, are 70 years of age or older (2).

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In this respect, surgeons are more frequently struck with the problem in choosing adequate therapy for those patients, as surgical procedures for gastric carcinoma are becoming more and more aggressive (3). The surgeons should consider the high risk of complications, surely quality of life and real long-term survival, as in majority of them co-existing diseases are frequently present.

Some of the authors in Japan, have reported low morbidity and mortality rates and high long-term survival, employing less aggressive procedures (1,4,5) in gastric cancer. Mean age of Japanese series is lower by 10 years respect to that of western countries; so the number of gastric can-

cer patients 70 and over is considerably lower compared to total cases, whereas in western countries they account for over 20% of cases (6).

The aim of this study is to evaluate the early postoperative results of surgery, morbidity and mortality and also the radicality of resective surgical treatment with its advantages and disadvantages in aged patients over 70 years with gastric cancer.

## Patients and Methods

We have included 91 patients with primary gastric cancer treated at General Surgery Department, University of Ege, between 1989 and 1997, in this study. The information was collected through a retrospective database and completed by chart review. The clinicopathological characteristics, symptoms, co-existing disorders, preoperative assessment, as well as the surgical treatment, postoperative morbidity and mortality rates and length of hospital stay were evaluated.

Fifty-six male and 35 female patients with mean age of 74.3 years (70-97) were included the study considering two major criteria of aging 70 or over years and having histological approval of gastric cancer. A ll patients underwent elective surgery except one who was cxploratcd urgently due to the perforation of stomach with malignancy. A preoperative assessment that is diagnostic evaluation, had been held in the patients including a fiberoptic upper GI endoscopy, abdominal ultrasonography, CT scan, tumor marker detection (for preoperative assessment and also postoperative follow-up protocols) and since 1996, a preoperative exploratory laparoscopy was held in five cases.

## Results

The search identified 91 patients with gastric carcinoma greater than 70 years of age, who underwent surgical treatment at General Surgery department of Ege University during the time interval studied.

The majority of the patients had been suffering from weight loss and epigastric pain prior to being admitted to the hospital (Table 1). While thirty-four of the patients had cardiovasculary disease, twenty had chronic pulmonary obstructive disease, two had neurologic deficiency as co-existing system disorders prior to surgery.

Table **1.** Clinical symptoms of the patients

| Symptom | n= | % |
|---|---|---|
| Weight loss | 52 | 57 |
| Epigastric pain | 39 | 42 |
| Vomiting | 22 | 24 |
| Hemorrhage | 15 | 16 |
| Dysphagia | 12 | 13 |

Table **2.** Surgical procedures performed

| Operation | | n= | % |
|---|---|---|---|
| By-pass procedures | | 16 | 16 |
| Resection of tumor | | | |
| *Partial gastrectomy | 39 | | |
| *Total gastrectomy | 13 | 52 | 57 |
| •With extended lymph node dissection + adjacent organ resection | 18 | | |
| Others | | | |
| -Exploratory laparotomy and biopsy | 11 | 21 | 23 |
| -Jejunostomy | 6 | | |
| -Gastrostomy | 2 | | |
| -Intraperitoneal port implantation | 2 | | |

In the study, the tumour locations and percentages were as; antrum 42% (n=37), lesser curvature 22%) (n=19), cardia 9% (n=8), greater curvature 14% (n=12), and linitis plastica 13% (n=ll). Surgical treatment was defined as curative according to the UICC criteria (7). There were six patients (6%) in stage I, twelve patients (14%) in stage II, 46 patients (50%) in stage IIIA-IIIB and 28 (30%) in stage IV.

In the study, four groups of patients were considered regarding the mode of surgical treatment as well as the resectability of tumors. While in group A, 16 patients (16%) who underwent palliative procedures due to unresectability or/and metastatic disease were included, group B concerned 52 patients (57%) in which a partial gastrectomy and a total gastrectomy with or without extended lymphadenectomy and removal of the adjacent organs was performed. There were 21 patients (23%) in group C whom underwent various surgical procedures as exploratory laparotomy ^biopsy, stumm gastrostomy or jejunostomy (Table 2). In the last

**Table 3.** Complications

| btiolc | | |
|---|---|---|
| Pu l monary disordcrs | | |
| * Pneumonia | | |
| * Pulmonary embolism | | 48 |
| * Ateleetasia | | |
| Cardiac disorders | | |
| * Myocardial infarction | | |
| * Atrial fibrillation | | |
| * Ventricular arythmia | | |
| * Left ventricular insufficiency | | |
| Soft tissue infection | | |
| Urinary infection | | |
| Anastomotic dehiscence | | |
| Pancreatic fistula | | |
| Renal insufficiency | | |
| Total | 19 | 100 |

group of patients consisted of four patients (4%) who did not undergo a surgery but they happened to be served one of chemotherapy protocols before they were discharged. Briefly, we performed a rc-sective surgery in 52 patients (57%) 16 patients (17%) underwent by-pass procedures and in 21 patients (23%) surgery was restricted to a simple explorative laparotomy and/or biopsy. Extension of lymph node dissection and the removal of adjacent organs were decided during surgery, according to the stage and site of tumor and to patient's conditions (n=18, 20%). Surgical resection was performed by the use of stapler in 17 patients. Histologic confirmation was achieved in all patients. Whereas, 66 patients (72%) revealed adenocarcinoma, 16 patients (18%) had epithelial malignant tumor and nine (10%) had malignant lymphoma.

In the study, morbidity and mortality rates were 20.8% (n=19) and 7.6% (n=7), respectively. Median length of stay in the hospital was 11.6 days (4-32 days). Pulmonary complications and cardivascular disorders mostly caused morbidity (Table 3). One of the patients who underwent partial gastrectomy had bile duct leakage due to anastomotic dehiscence fourth day postoperatively. It regressed following day^ and finished two weeks after. Besides another patient who was performed partial gastrectomy with extended lymphadenectomy splenectomy + distal pancreatectomy happened to have a pancreatic fistula on the seventh day following days. It was managed by total parenteral nutrition and also invasive monitoring in the intensive care unit. He was discharged thirty-two days following the surgery.

There were seven mortal cases in the series. While cardiac failure due to myocardial infarction and ventricular arythmia was the cause of deaths in one and three patients respectively, the other three died because of pulmonary failure due to pulmonary emboli in one and pulmonary infection in the rest. Something to point out that is, 68% (n=13) of the morbidity cases were happened to undergo a resective surgery.

## Discussion

Gastric cancer remains an affection exhibiting high incidence in the advanced age population, despite of its decreasing incidence in the young and early mature age (8-11).

Surgery is still the treatment of choice but a strong controversy is held about the limits of gastric resection in the elderly, due to the fact that perioperative mortality and morbidity remain high despite the new methods in anesthaesia and critical care (12).

The incidence of gastric cancer in the elderly has increased significantly compared to the middle age and younger patients in the last decades (13). The last fifteen years $H_2$ antagonists have reduced the prevalence of peptic ulcer disease in the latter and surgery for this affection. Elderly patients present this increased incidence of gastric cancer due to prolonged life expectancy and frequent upper gastrointestinal endoscopy (8,10). According to many researchers, age at the time of operation in geriatric population is a significant prognostic factor (14,15).

Aggressive surgery, i.e. extended resections still remain controversial in most Western countries for the aged over 70 (16). On the contrary; according to Japanese authors, curative gastrectomies seem to offer great benefit as shown in many actuarial survival curves (11,17). We happened to perform surgical resection in 52 of the patients with 57% rescctability rate of tumor in our review.

In patients with resectable gastric cancer over 70 years of age, the single most important and pre-

veritable factor leading to increased length of hospitalization is the occurrence of any complication. While a complication rate of 20.8% in this patient population appears to be relatively high, it reflects a complete, retrospective data collection and in this respect is not different from morbidity rates obtained in large, prospective, randomized trials (18,19). However, performance of gastric resection was correlated with a higher incidence of complications (25%, n=13) or in mortality (28%, n=2). While it translated into an increase in hospital stay, splenectomy or removal of any other organ at the time of gastrectomy failed to independently influence the length of hospital stay in the study.

On the other hand, the onset of complications, co-existing diseases, especially cardiopulmonary disorders and total gastrectomy were most predictive of a prolonged hospitalization.

Postoperative complication rates following surgical procedures for gastric cancer have been shown to be more prevalent in patients greater than years of age. While elective operations generally can be performed safely in selected elderly patients, the relative postoperative morbidity in these patients undergoing gastrectomies for cancer of the stomach arc quoted to range from 13 to 49% (18,19,20). Since treatment-related complications are the most important determinant for the length of hospital stay and since the length of stay is the key factor to influence treatment costs, the assessment of complications and other factors influencing length of stay in elderly patients undergoing gastrectomies has gained important economical implications.

As a result, even though complicated by higher morbidity and mortality, resection of gastric cancer in elderly patients younger than 70 years of age can be performed relatively safely and leads to comparable survival. The findings support careful patient selection and optimal preparation of elderly patients undergoing gastric cancer resection.

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