

Risk of the Stomach Carcinoma After Gastric Operation

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BENİGN GASTRODUODENAL HASTALIKLAR
(ÇİN YAPILAN MİDE OPERASYONLARINDAN
SONRA MİDE KANSERİ RİSKİ

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SUMMARY

Gastric carcinoma following surgery for benign gastroduodenal disease is being increasingly reported. We have reviewed our experience at Ankara Numune Hospital from 1980 to September 1986 and found 486 cases of gastric carcinoma, two of whom had undergone previous surgical procedure for peptic ulcer disease with an incidence 0.4 percent of gastric stump carcinoma. These patients were analyzed and compared with prior reports in the literature. The crude rate we obtained in this study (0.4 percent), by comparing with similar reports in the literature, shows that gastric carcinoma isn't more frequent in patients who have had a previous gastric operation.

Key words: Gastric remnant carcinoma

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ÖZET

Benign mide duodenum hastalıkları için yapılan cerrahi müdahaleye takiben ortaya çıkan mide kanserleri gittikçe artan sayılarda rapor edilmektedir. Ankara Numune Hastanesi'nde 1980 ve Eylül 1986 yılları arasında tespit edilmiş 486 mide kanseri vakası retrospektif olarak gözden geçirildi. 486 vakadan ikisi (% 0.4) daha evvel peptik ülser nedeniyle ameliyat edilmişti. Bu hastalar analiz edilerek literatürdeki daha evvelki yayımlarla mukayese edildi. Bizim elde ettiğimiz kaba oran, literatürdeki benzer şekilde yapılan raporlarla mukayese edildiğinde daha önce mide operasyonu geçiren hastalarda mide kanseri gelişme insidansının daha sık olmadığını göstermektedir.

Anahtar kelimeler: Gastrik remnant karsinoma

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INTRODUCTION

Although gastric cancers are documented rarely in patients with a history of medically treated duodenal ulcer (23), gastric remnant carcinoma, first described Balfour (1) in 1922, is a well recognized clinical entity which occurs in 4-6% of patients after gastric operation for benign disease (5, 8, 12, 17, 19, 20). Since the first study, Mogenstern and Nicholls (15) estimate that there are now over 2000 reports of this entity in the world literature. These observations suggest that previous gastric surgery predisposes to the development of gastric carcinoma. However, reports of negative association (4, 11, 13, 16, 18) of benign gastric surgery with subsequent development of carcinoma also appeared.

We have reviewed 486 cases of gastric carcinoma

at Ankara Numune Hospital to determine the prevalence of gastric remnant carcinoma and to compare our experience with that of others.

MATERIALS AND METHODS

We retrospectively reviewed 486 cases of gastric carcinoma diagnosed by histopathologic examination between January 1980 and September 1986, at the general surgery departments of Ankara Numune Hospital. They were evaluated for prior history of gastric surgery, age, sex, interval between surgery and diagnosis and site of tumor. Patients were considered to have gastric remnant carcinoma if the malignancy was detected more than five years after surgery to eliminate the possibility of concurrent conditions.

Table - 1

Summarizes the Data on Two Cases of Gastric Remnant Carcinoma
Developing After Surgery for Benign Disease

Pattern	Sex	Surgical Procedure	Age at Diagnosis of Cancer	Interval Between Cancer and Surgery (yr)	Carcinoma
1	M	Billroth II	65	38	Gastric remnant
1	M	Billroth II	65	30	Gastric remnant

Table - II

Risk of Carcinoma After Partial Gastrectomy
Retrospective Studies

Author	Patients (n)	Cancers (n)	Percent
Terjesen and Erichsen (26)	680	8	1.2
Domellof and Janunger (5)	676	14	2.0
Saagesser and James (21)	617	18	2.9
Giarelli et al, (10)	480	31	6.5
Peitsch and Becker (19)	302	27	8.9

RESULTS

We have found 1 patients who had undergone previous gastric surgery for duodenal ulcer. Two patients had undergone subtotal gastrectomy and Billroth II reconstruction at their original operation and two had gastroenterostomy and vagotomy. The latter two patients diagnosed one and two years respectively after previous operation, were excluded. Table-I summarizes our data on two cases of gastric carcinoma developing after surgery for benign disease.

The mean age at the time of first gastric operation was 31 years (range 27 to 35). The mean age at the time of diagnosis was 65 years. The mean interval between the first operation and the development of cancer was 31 years. The patients were male and site of carcinomas were near the stoma.

CASE REPORTS

Case 1.

A 65 year old man was admitted to the cancer surgery service of Ankara Numune Hospital in July 1986 with a two month history of epigastric abdominal pain, nausea and vomiting. He had also anorexia, weakness and weight loss. He had had subtotal gastrectomy for duodenal ulcer disease 38 years ago. The physical examination was normal except that he had a small incisional hernia. The stool guaiac test was negative and hemoglobin was 9 gr/dl. The upper gastrointestinal series was interpreted as stomal obstruction with a suspect ulcer on the lesser curvature.

Endoscopy showed a malign ulcer near the stoma and endoscopic biopsy demonstrated invasive adenocarcinoma. The patient subsequently underwent subtotal gastrectomy and Roux and Y reconstruction. The resected specimen contained gross tumor near the stoma and histologic sections confirmed the endoscopic diagnosis.

Case 2.

A 65 year old man was admitted to the Cancer Surgery Service of Ankara Numune Hospital in September 1986 with a 1 month history of epigastric abdominal pain, weight loss, weakness and anorexia. He had had subtotal gastrectomy for duodenal ulcer disease in 1956. The only physical finding was abdominal painless mass. Upper gastrointestinal roentgenograms was interpreted as normal. Endoscopy showed stomatitis and no focal lesions. Endoscopic biopsy wasn't performed. At the operation there was a large tumoral mass at the stoma infiltrating transverse colon, omentum and pancreas. The lesion was biopsied and the abdomen was closed. The histological sections of biopsy demonstrated adenocarcinoma.

DISCUSSION

The question whether or not gastric operations for ulcer disease implies an increased risk for carcinoma is still a matter of dispute. In many countries gastric carcinoma in the nonresected stomach has been reported to decrease during recent years. On the other hand, there is evidence that gastric operations for peptic ulcer disease may predispose to the later development of gastric cancer. In a series of 630 autopsied cases of gastric carcinoma Stasberg and Taksdal (25) reported a sixfold greater incidence of previous gastric surgery for benign gastric disease in patients operated on 25 years or more before that in matched controls. The studies reported by other workers supported this data. This neoplasm has been reported in as many as 6 percent of previously gastrectomized persons. These data are summarized in Table-II and Table-III.

The studies reported by Orlando et al. (17), and Klarfeld and Resnic (12) also supported these data. These workers have attempted to assess the risk of

Table - III

Prospective Endoscopy After Gastrectomy

Author	Patients (n)	Cancers (n)	Percent
Domrillo et al. (6)	180	6	3.3
Sehrump et al. (24)	108	7	6.4
Savage and Jones (22)	63	1	1.6
Gobes et al. (8)	56		8.9

Table - IV

Incidence of Gastric Remnant Carcinoma in Gastric Carcinomas Retrospective Studies

Author	Patients (n)	Gastric	
		Remnant Ca. (n)	Percent
Ovasko et al. (18)	3441	37	1.1
Orlando et al. (17)	678	17	2.5
Perez et al. (20)	319	16	5.0
Klarfeld and Resnic (12)	100	7	7.0
Coşkun et al.	486	2	0.4

developing cancer of the gastric remnant in the way of this study. Orlando had 678 patients with carcinoma of the stomach and 17 of whom (2.5 percent) had undergone previous gastric surgery were identified. Klarfeld and Resnic (12) found that there were one hundred of gastric carcinoma included 7 cases (7 percent) of gastric remnant carcinoma at the New York Hospital-Cornell Medical Center. Recent studies reported by Perez et al. (20) and Ovasko et al. (18) also using the same way suggest the increased risk. Our data that is 0.4 percent doesn't support these increased incidences. These data are summarized in Table-IV.

Kivilaasko et al. (13), also using a matched control autopsy approach, found no increase in risk. Nicholls (16), in a retrospective analysis of 28 patients with gastric remnant carcinoma, demonstrated that the incidence of remnant cancer was 0.55 percent at St. James Hospital in London. Dene et al. (4) who also estimated the risk to be even lower than in the unoperated population explained their finding that gastrectomy actually decreased the risk of cancer by eliminating three fourths of the stomach.

Despite these contradictory data, it seems, however, conceivable to consider patients who underwent gastric surgery for benign conditions as the populations at risk of developing gastric carcinoma. Also experimental studies on animals demonstrate that

gastric surgery predisposes to gastric carcinoma (8),

The development of postgastrectomy carcinoma has been attributed to biliary enteric reflux causing acute postoperative gastritis, which spreads from the area around the anastomosis toward the fundus (3, 9, 14). In a few years, atrophic gastritis develops, and intestinal metaplasia of the mucosa ensues. These pathologic changes frequently coexist with gastric cancer and are thought to be precancerous lesions. Although similar lesions exist in the stomach of the nonoperated ulcer patients, the addition of gastric surgery increases their incidence to approach that of elderly individuals and gastric cancer victims (7).

Most of the previous investigations, whether agreed with an increased risk for carcinoma or not, have shown that stump carcinoma late after operation, and the study performed by Stalsberg and Taksdal (25) strongly suggests that a lower frequency of stump carcinoma is found during the first period postoperatively but the risk increase after approximately fifteen years. Our data of these two patients are also similar to that findings with the mean interval 34 years. Bernhard, Kuss and Bartsch (2) found that patients undergoing operation at younger ages had a possible longer time interval between the ulcer operation and the development of stump carcinoma. Although the number of our patients is too small to evaluate for the statistical point of view, the younger ages of them seem to have similarity.

Considering crude rate we obtained in this study (0.4 percent), by comparing with similar reports, we can see that gastric carcinoma isn't more frequent in patients who have had a previous gastric operation. However, we feel that the incidence of gastric stump carcinoma might have been higher than we found in our hospital. As an explanation for the lower rate of stump carcinoma can be due to lack of even a gastroscopic examination although it was known to be a sophisticated hospital in which this study was prepared. Furthermore, we haven't been able to find any study reported on this subject to compare with this data in our country.

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