

## **SIMULTANEOUS OCCURRENCE OF GASTRIC CARCINOMA IN THE NON-TWIN BROTHERS** **Reports of Two Cases**

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*SUMMARY: Gastric carcinoma is a rare entity in brothers. A 54 year-old woman complained of epigastric pain and weight loss was found to have cancer in the body of the stomach. Her symptomatic brother was also evaluated and found to have carcinoma in the same region of the stomach. Although histological types of the cancer in the brothers were different, the associated changes of the gastric mucosa similar in both. Kinship studies suggest that carcinoma of the stomach tends to occur more frequently in certain families, but it is difficult to distinguish genetic from environmental influences in these cases. The finding of simultaneously gastric carcinoma in the non-twin brothers may suggest that environmental influences combined with genetic factors are important in the development of gastric neoplasia.*

*Key Words: Gastric carcinoma.*

### **INTRODUCTION**

Simultaneous occurrence of gastric carcinoma in identical twins and increased incidence of the disease in members of the same family have been reported (1–8). In these cases it is often difficult to distinguish genetic factors from environmental influences (2, 4, 5, 7, 8). The importance of environmental exposure in early life is evidenced by migrant studies showing persistence of increased incidence for stomach cancer in population moving from high to low risk areas at any time after childhood (7, 9–12).

We reported gastric carcinoma simultaneously detected in the non-twin brothers.

### **CASE REPORTS**

A 54 year-old woman was admitted on 4 December 1987 with a 5-month history of epigastric pain, anorexia and 10 kg weight loss. She lived a village from the birth.

On physical examination she appeared pale, fat and acutely ill. There was a firm, large epigastric mass and a 10 cm irregular hepatomegaly. Ultrasonographic examination revealed multiple nodules of various size with target like appearances in the liver.

Gastroscopy demonstrated a polypoid carcinoma involving the body of the stomach along the greater curve. Multiple endoscopic biopsies were taken from the lesion. The histologic diagnosis was diffuse type of carcinoma and severe metaplastic gastritis (Figures 1, 2a and 2b).

She had a progressive downhill course and expired one and a half months later.

While this patient was investigated, her younger brother, aged fifty years and lived in the same village from the birth, stated that he had also epigastric pain and weight loss during the last seven months. He also complained of weakness and general malaise. The patient was evaluated in the same day.

On physical examination he looked pale. An epigastric mass and a 7 cm irregular liver were palpated.

Ethographic pattern of the liver was similar to his sisters.

On endoscopic examination a polypoid mass resembling polycystic kidney were detected in the body of the stomach. Microscopically intestinal type of carcinoma and severe metaplastic gastritis were found in the endoscopic biopsies (Figures 3, 4a and 4b).

He received two courses of FAM combination, but he died 3 months following initial diagnosis.

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Figure 1: A polypoid tumor in the sister are seen in the stomach body.

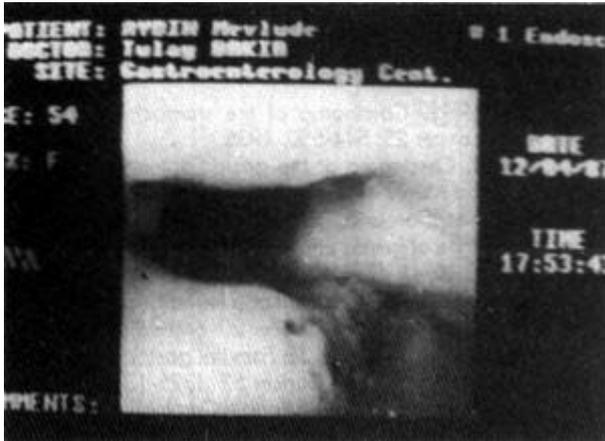


Figure 3: A polypoid mass in the brother resembling to the polycystic kidney located in the body.



Figure 2a, 2b: A low and high power view of diffuse carcinoma in the sister (Hematoxylin and eosin, a: original magnification X 12.5, b: original magnification X 25).

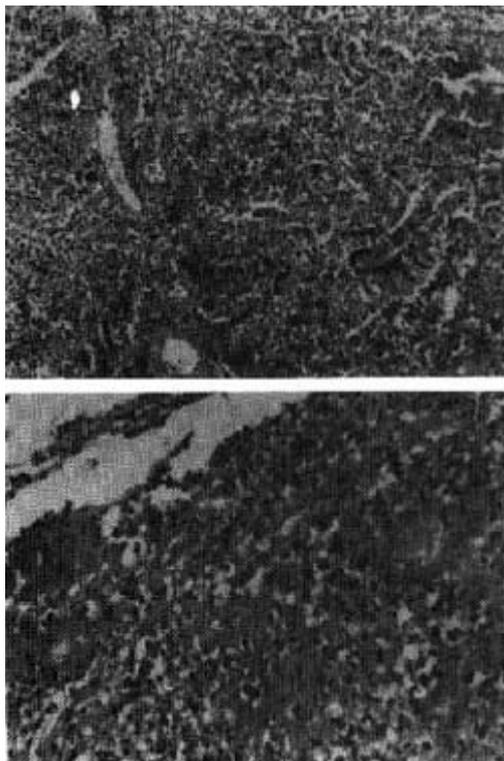
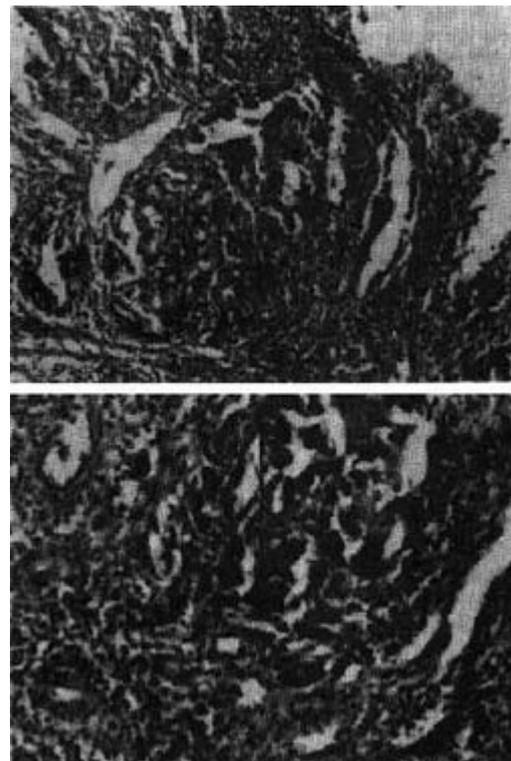


Figure 4a, 4b: An intestinal type of carcinoma in the brother (Hematoxylin and eosin, a: original magnification X 2.5, b: original magnification X 25).



DISCUSSION

Some families have been reported in which there are aggregation of members with gastric cancer. Relatives of persons with gastric carcinoma are believed to have at least two to three times greater incidence of this disease.

Gastric carcinoma has also been observed in identical twins (2-4, 11-17). However it is impossible to separate out the effect of gastric factors from environmental influences because these families exposed to similar environmental factors from the early in life (9-12).

The influence of environmental factors in the development of gastric carcinoma is evidenced by the declining incidence of this malignancy in many region of the world and the high incidence among lower socioeconomic population. The effect of migration on gastric carcinoma incidence indicated that exposure to an etiologic agent early in life is important for this disease (11,12,18-20).

The occurrence of the gastric carcinoma in these non twin brothers may be coincidental, but there some striking similarities in these cases:

1. Gastric carcinoma detected in the brothers simultaneously.
2. Both carcinoma located in the body of the stomach and were in an inoperable stage.
3. The gross appearances of the two carcinoma were largely similar.
4. Gastric mucosa of the two brothers showed severe metaplastic gastritis.
5. Echo pattern of the liver was similar in the two brothers.
6. Duration of gastric symptoms were similar in the two cases.
7. The brothers lived in the same village since the birth.
8. The brothers in the same five year age period, which is of great importance either from the view point of heredity (1).
9. It was said that third sister has also complained from weight loss and epigastric pain. Unfortunately this patient could not be evaluated because she expired two days later.

Moreover it could not be explained why histological characteristics of the carcinoma were different in the two brothers; the gastric carcinoma was diffuse type in the sister and was intestinal type in the brother.

Ultimately the current cases suggested that environmental exposure in early life is important in the etiology of the gastric cancer.

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