

GASTRIC STUMP CARCINOMA: A SURGICAL CHALLENGE

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ABSTRACT

Gastric stump carcinoma is a carcinoma arising in the stomach remnant following previous gastric resection. It is a distinct disease entity with its unique aetiology and pathogenesis. We report 3 cases of gastric stump carcinoma encountered in the department over the past 5 years and review current literature pertaining to its clinical presentation, aetiology, pathogenesis, treatment strategy and the role of screening endoscopy. The disease is characterised by its late presentation and dismal prognosis and will continue to pose a surgical challenge in the years to come.

Keywords: gastric stump carcinoma, screening endoscopy, enterogastric reflux

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CASE 1

A 76-year-old Chinese male was admitted in March 1993 with the complaint of easy satiety and epigastric fullness following ingestion of food. He had a history of gastrectomy 33 years ago. Clinical examination revealed that he was in poor general health with cachexia and pallor. Abdominal examination was essentially normal, except for an upper abdominal midline scar. Gastroscopy showed an infiltrative lesion involving almost the whole stomach wall from the gastrojejunostomy anastomosis to the cardia. Biopsy revealed moderately differentiated adenocarcinoma. Computerised axial tomogram (CT Scan) showed enlarged lymph nodes in the retrocaval area, right paratracheal area, subcarinal space, subaortic arch and the peripulmonary areas. Palliative remnant gastrectomy with a Roux-en-Y anastomosis was done. Postoperative recovery was uneventful and he was discharged from hospital after the skin stitches were removed. Six months later, he was readmitted for severe loss of weight and right hypochondriac pain. Severe cachexia and gross abdominal distension were noted. Abdominal examination revealed hepatomegaly and gross ascites. Multiple liver secondaries as well as enlarged lymph nodes in the coeliac axis were noted on ultrasound. He was treated conservatively and died 2 weeks later.

CASE 2

A 70-year-old Chinese male presented in June 1994 with the complaint of epigastric pain on and off associated with early satiety and regurgitation for 3 months. He also had a history of gastrectomy 20 years ago. Clinically, he was cachectic and pale. Abdominal examination revealed a large epigastric mass measuring about 10 cm from the xiphisternum. Gastroscopy

showed a fungating tumour arising from the posterior wall of the stomach remnant. Biopsy revealed poorly differentiated adenocarcinoma with signet ring cells. Ultrasound and computerised axial tomogram (CT Scan) did not show any liver secondary. Surgery was offered but the patient refused. He was treated conservatively and passed away six weeks later.

CASE 3

A 50-year-old Malay male presented in February 1988 with the complaint of epigastric pain associated with malaena and syncope. He had a past history of gastrectomy 18 years ago.

Gastroscopy showed a chronic stomal ulcer at the efferent side of the anastomosis. Biopsy of the ulcer did not reveal any malignancy. He was treated conservatively with peptic ulcer medication. There was, however, no improvement in symptoms. Repeated gastroscopy and biopsy each time did not reveal any malignancy. Surgery for recurrent disease was offered but he refused. Two years later, he was admitted to hospital for acute intestinal obstruction. Barium study this time showed stricturing of the anastomotic site and shouldering of the adjacent stomach remnant. Gastroscopy showed a fungating tumour at the gastric stump. Biopsy taken revealed poorly differentiated adenocarcinoma. Ultrasonography of the hepatobiliary system was normal. A stump gastrectomy with a Roux-en-Y anastomosis, splenectomy, limited transverse colectomy, distal pancreatectomy and a feeding jejunostomy were carried out. Postoperative recovery was uneventful and he was discharged from hospital after the skin stitches were removed.

Six months later, however, he presented with dysphagia and regurgitation. Clinically, he was dehydrated and cachectic. A large mass occupying the epigastric and right hypochondriac region was noted. He was treated conservatively and died two days after admission.

DISCUSSION

Gastric stump carcinoma is defined as carcinoma arising in the gastric remnant more than 5 years following previous gastric resection for benign disease, or more than 15 years after curative surgery for malignant disease. These time intervals are necessary to eliminate cases of missed primary carcinoma in the former and to exclude recurrent carcinoma in the latter⁽¹⁾.

Since Balfour described the first case of gastric stump carcinoma in 1922⁽²⁾, there have been more reports on the condition. Incidence reported worldwide varies from 0.44% in the United Kingdom to 6.88% in Spain⁽³⁻⁵⁾. There seemed to be a geographic variation in its occurrence with high incidences reported in Scandinavia and Western Europe but a relatively low incidence reported in the United Kingdom and the United States.

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Japan, with its high incidence of primary gastric carcinoma, has only a moderate incidence. In general, a definite increase in incidence has been noted over the years. Some reasons postulated for the rising incidence include: (i) increased gastric resections in the sixties and seventies as primary modality of treatment for peptic ulcer disease, (ii) increased awareness of the condition amongst clinicians, (iii) increased longevity of patients, and (iv) actual changing disease pattern⁽¹⁾. Incidence in males is eight times higher than in females. This is attributed to the higher incidence of peptic ulcer disease in males^(3,4).

A direct correlation between the interval of gastrectomy and the development of gastric stump carcinoma has been noted. The incidence increases with post-operative interval. It is estimated that more than 50% of patients would develop gastric stump carcinoma 25 years after surgery^(3,4). Some authors even claim that all patients would eventually develop gastric stump carcinoma if they live long enough; thus suggesting that the gastric stump itself should be considered a premalignant condition⁽⁶⁾. It is also noted that the older the patient, the shorter the interval required to develop the carcinoma⁽⁷⁾.

The aetiology of carcinoma of the gastric stump is thought to be related to changes in the gastric mucosa which arise as a result of the change in the anatomical relationship between the stomach and the small intestine following surgery⁽⁷⁾. Mucosal changes found vary from chronic gastritis, intestinal metaplasia, mild to severe dysplasia and carcinoma in-situ^(8,9). Changes from one stage into another is unpredictable except those of severe dysplasia, whose progression to carcinoma in-situ has been widely observed⁽⁶⁾. Enterogastric reflux plays a very significant role in the pathogenesis^(10,11). Other important aetiological factors cited include bacterial proliferation and hypochlorhydria which increase the mucosal susceptibility to carcinogenesis by N-nitrosamines⁽¹²⁾.

Clinical presentation of gastric stump carcinoma is usually late and the disease is advanced as illustrated by three cases reported earlier.

Surgical resection remains the only effective modality of treatment. Overall average survival is 4.6 months and surgery, whether palliative or curative, has survival benefit⁽¹³⁾. In the cases of early gastric stump carcinoma, a radical resection of the remnant stomach with its lymphatic drainage is required. There is no role for marginal re-section in any case⁽¹⁴⁾.

The key to better survival is through early detection and treatment of early lesions. Screening endoscopy is the method of choice although it is not universally accepted⁽¹⁵⁾. For screening to be worthwhile, the disease under consideration should be a serious health problem (ie high prevalence) in the population concerned. The screening test itself must be specific, sensitive, reliable, cheap and readily acceptable to the general public. Random biopsies have an inherent sampling error of up to 10%. Reliability of histological assessment varies amongst pathologists, especially for early changes⁽¹⁵⁾. Moreover, the procedure itself, especially amongst asymptomatic patients, is

not well accepted. Thus endoscopy and biopsy are not satisfactory screening tools. Offerhaus however, reported a definite benefit in a screening programme conducted in Sweden. More than 50% of the carcinoma detected were early lesions and more than 50% of the cases with severe dysplasias eventually progressed to develop into carcinoma on follow-up⁽⁶⁾.

CONCLUSION

The hope for better survival amongst patients with the disease would be dependent on better awareness of the condition amongst clinicians and the detection of early lesions. Until such time when a better screening test or other more effective modality of treatment is available, the prognosis of gastric stump carcinoma will continue to remain poor.

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