Metachronous occurrence of gastric carcinoma after gastric stromal tumor: considerations on therapeutic strategy


Gianluca Baiocchi, Maurizio Ronconi, Tullio Piardi, Vincenzo Villanacci*, Guido A.M. Tiberio, Nazario Portolani, Stefano Maria Giulini

Department of Medical and Surgical Sciences, Surgical Clinic, Brescia University, Brescia, Italy
*Department of Pathology, Brescia University, Brescia, Italy

Introduction

The synchronous occurrence of multiple primary gastric tumours from different cellular lines is rarely reported in the literature. The most frequently described are the associations between adenocarcinoma and B-cell lymphoma, sarcoma, stromal tumours and carcinoid 1-3. Such associations stimulate questions concerning a common cancerogenic pathway and the therapeutic strategy.

We describe herein a previously unreported case of metachronous occurrence of gastric adenocarcinoma after stromal tumour, that may add some useful elements to the discussion.

Case report

A 73-year-old man was observed complaining dyspepsia and epigastric discomfort; abdominal US and subsequent CT scan evidenced a mass, 5 cm in size, in the anterior wall of the gastric antrum (Fig. 1). Upper endoscopy confirmed the presence of a submucosal non ulcerated tumour. Percutaneous US-guided biopsy confirmed the suspicion of a non-epithelial neoplasia. The patient underwent open surgical intervention, in which the tumour was removed through a posterior gastrotomy, with a wide margin of macroscopically normal gastric wall. Histological diagnosis revealed a gastrointestinal stromal tumour with autonomic nervous differentiation (previously named GAN). The tumour cells were diffusely positive for S-100 protein, vimentin and CD117 (c-kit), and negative for smooth muscle actin and desmin; MIB-1 and CD34 were focally positive. The mitotic index was intermediate (10 x 50 HPF). A chronic gastritis

Pervenuto in Redazione Ottobre 2006. Accettato per la pubblicazione Dicembre 2006
For correspondence: Gian Luca Baiocchi, MD, Via Cicognini 6, 25127 Brescia, (e-mail: baioksurg@hotmail.com).
with diffuse intestinal complete metaplasia was associated. No Helicobacter pylori infection was detected. One year later the patient underwent routine oesophagastroduodenoscopy follow-up; a small (1 cm) lesion was diagnosed in the distal lesser curvature at the angulus; the biopsies revealed it to be an intestinal-type submucosa-confined adenocarcinoma (EGC) of type IIb, according to the Japan Gastroenterological Endoscopy Society classification. A subtotal gastrectomy with D2 lymphadenectomy and Roux-en-Y gastrojejunostomy was performed. At final histological examination, the gastric lesion was an early well-differentiated tubular adenocarcinoma (Fig. 2); all the 27 removed nodes were negative, pathological staging being T1smN0. The stomach showed diffuse, Helicobacter pylori-negative, chronic atrophic gastritis with intestinal metaplasia, both complete and incomplete. No residual GAN was present along the previous gastrotomy line.

The patient had an uneventful recovery and is disease-free 50 months after the operation.

Discussion

The reported case may contribute to the discussion about the significance of the association of gastric tumours of different histological origin, that has been reported in several cases until now, more often with synchronous presentation.

In our patient the familial and previous pathological history was accurately investigated, but no other tumour was found in the family, nor any malignant disease was experienced by the patient, making questionable the hypothesis that a genetic predisposition could explain the occurrence of 2 different tumours. The environmental risk factors were searched. The patient had a level of gastric cancer alimentary-related risk comparable with that of the general population of the area, carrying a moderate-to-high risk (about 38 new cases per 100000 males and 27 new cases per 100000 females per year). As the patient did not undergo any neo-adjuvant or adjuvant therapy for the treatment of the stromal tumour, a mutagenic effect due to radiation or chemotherapy previously employed may not be advocate as etiologic agents of the second tumour. In 2 repeated histological examinations, no Helicobacter pylori infection, a known possible cancerogenic agent, was detected. The chronic atrophic gastritis with diffuse intestinal metaplasia, that is also known to be a precursor of intestinal adenocarcinoma, on the basis of the actual knowledges may not be considered as a factor predisposing to the occurrence of gastric stromal tumours. In conclusion, no pathogenetic relationship may be postulated between these epithelial and stromal neoplasia. Thus, from the available data, coincidence alone could account for the association of the two neoplastic lesions described in this case.

However, considering the reported increasing incidence of the gastric stromal tumours, a remark about the surgical treatment of those stromal tumours occurring in a patient affected by chronic atrophic gastritis with intestinal metaplasia may prove worthwhile. The current surgical approach to gastric stromal tumours provides for the possibility of different curative but conservative procedures, such as the wedge gastric resection, the tumour excision through gastrotomy, or the combined surgical/endoscopic approach with intragastric enucleation, eventually by laparoscopy. A more aggressive policy, i.e. the subtotal or total gastrectomy, is indicated from the literature for the big-size gastric stromal tumours, owing to their tendency to local recurrence after conservative treatments, carrying high medium and long-term mortality rates. On the basis of the reported experience, we suggest that the presence of chronic atrophic gastritis with intestinal metaplasia must be considered as an adjunctive criteria to prefer a wide
resection (subtotal or total gastrectomy, depending upon the location of the mass) in those cases of gastric stromal tumours, of intermediate size and mitotic index, in whom a wedge gastric resection could be accepted as a valid alternative. Such policy results in a more radical treatment of the stromal tumour and may be considered as preventive toward the occurrence of an epithelial gastric cancer.

**Conclusioni.** Nel caso di tumore gastrico stromale di dimensioni ed indice mitotico intermedio, per il quale una chirurgia conservativa potrebbe essere proposta sulla base delle indicazioni correnti, un trattamento radicale mediante gastrectomia costituisce una alternativa ragionevole in presenza di gastrite cronica atrofica con metaplasia intestinale nello stomaco circostante il tumore.

**Biblografia**
