Metachronous occurrence of gastric carcinoma after gastric stromal tumor Considerations on therapeutic strategy



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

INTRODUCTION: To our knowledge, the metachronous occurrence of a stromal and epithelial gastric tumour has not been previously reported in the Literature.

CASE REPORT: A 73-year-old man underwent open resection of a gastric stromal tumour located in the posterior antrum wall. The maximum size of the tumour was 5 cm, and final histological examination diagnosed it as a primary gastrointestinal autonomic nerve tumour (the so-called GAN tumour); mitotic index was intermediate (10×50 HPF). Twelve months later, during endoscopic follow-up, a small ulcerated adenocarcinoma was found at the gastric angulus and subtotal gastrectomy with D2 lymphadenectomy was performed. Final pathological stadiation was T1smN0. The patient is alive and disease free 50 months later. Since he has had two tumours, it would appear that this patient has a tendency to develop neoplasia. However, no risk factor was found being consistent with an aetiological role in both tumours, if we exclude the presence of chronic atrophic gastritis with intestinal metaplasia in the gastric mucosa around both tumours.

CONCLUSIONS: In those cases of gastric stromal tumours, of intermediate size and mitotic index, in whom a wedge gastric resection may be proposed, a radical gastrectomy should be considered as a valid alternative, especially when, as in the described patient, chronic atrophic gastritis with intestinal metaplasia is associated.

KEY-WORDS: Adenocarcinoma, Stromal Tumour, Stomach.

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

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Fig. 1: Contrast-enhanced CT scan showing a solid mass located in the posterior wall of the gastric antrum.

with diffuse intestinal complete metaplasia was associated. No Helicobacter pylori infection was detected.

One year later the patient underwent routine oesophagogastro-duodenoscopy 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.



Fig. 2: A) Hematoxylin-eosin, 40x. Gastric adenocarcinoma. B) Hematoxylin-eosin, 40x. Gastric stromal tumour: spindle cells with acidophilic cytoplasm, arranged in fascicles.

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-tohigh 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 ⁴, 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 approach intragastric surgical/endoscopic with enucleation, eventually by laparoscopy 5-7. 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 o 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.

Riassunto

INTRODUZIONE: Nonostante siano stati descritti alcuni casi di neoplasia gastrica sincrona, l'associazione metacrona tra tumoure stromale e adenocarcinoma non è mai stata riportata in Letteratura.

CASO CLINICO. Paziente maschio, di 73 anni. Viene sottoposto a resezione gastrica parziale per una neoplasia stromale di circa 5 cm di dimensione massima localizzata a livello della parete posteriore dell'antro. L'indice mitotico risulta essere di 10 x 50 HPF. Nel corso del follow-up, a 12 mesi di distanza, viene formulata la diagnosi di adenocarcinoma angolare, per cui si procede a gastrectomia subtotale con linfectomia D2. La stadiazione patologica risulta T1smN0. A 50 mesi di distanza, il paziente è vivo e libero da malattia. Dal momento che questo paziente ha avuto due neoplasie metacrone, si è ipotizzata l'esistenza di un fattore favorente di tipo genetico, dietetico o ambientale. Tuttavia, da una analisi approfondita del caso, non è emerso alcun elemento indicativo di una eziologia specifica, se si esclude la presenza di gastrite cronica atrofica con metaplasia intestinale nelle biopsie gastriche e sulla mucosa dello stomaco asportato.

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.

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