

CASE REPORT

# Colon Metastasis, 8 years after Gastrectomy, for Stage I Gastric Cancer

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Published online: 29 June 2017  
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## Background

Gastric cancers and particularly signet ring cell carcinoma are aggressive tumors and have poor prognosis. The recurrence rate after curative treatment of gastric cancer varies between 40 and 65% in 5 years [1]. These recurrences mainly concern stage II cancers or higher and occur in 70% of cases in the first 2 years; beyond 5 years, they are of the order of 6% [2]. Metastases in the gastrointestinal tract are rare with a rate of 2.3% in a Japanese study [3]. We report a case of stager I gastric signet ring cell carcinoma which recurred 8 years later at an unusual site which is the colon.

## Case Presentation

A 62-year-old man underwent surgery at the age of 54 for a tumor of the gastric antrum. He had a partial gastrectomy with a D1 flushing. Pathological examination revealed a signet ring cell carcinoma of the gastric antrum invading the muscularis propria. The limitations of duodenal and gastric

resections were not invaded; none of the 18 removed lymph nodes were positive. The tumor was therefore classified as T2N0M0

Post-operative chemotherapy was therefore not indicated. The patient was followed for 5 years. There was no tumor recurrence.

He consulted us 8 years after surgery for recent transit disorders and weight loss. A colonoscopy showed a stenosing tumor of the transverse colon. We discussed the possibility of a late loco-regional recurrence of stomach cancer. The fibroscopy was normal and the coloscanner was in favor of a colonic tumor (Fig. 1).

The patient was operated on. It was a large lesion of the transverse colon adhering to the anterior wall of the abdomen, the lower border of the liver, and the anterior surface of the second duodenum. A right colectomy extended to the transverse colon with monobloc resection of the hepatic, parietal, and duodenal adhesion was performed. The surgery was simple.

The pathological examination showed a signet ring cell carcinoma of the colon invading parietal planes from the mucosal surface to the subserosa without surpassing it (Fig. 2). There is no tumor infiltration in the abdominal wall, the liver, and the duodenum. Two of the 20 ganglia were positive. The tumor was classified pT3 pN1M0. It was therefore a colonic tumor and not a local recurrence. The immuno-histochemical test had shown multifocal expression of CK7 by neoplastic cells; CK 20 were negative (Fig. 3). This immunohistochemical profile is, therefore, in favor of a gastric origin.

This allowed us to conclude to a colonic metastasis of gastric cancer. Adjuvant chemotherapy was performed (Fig. 3).

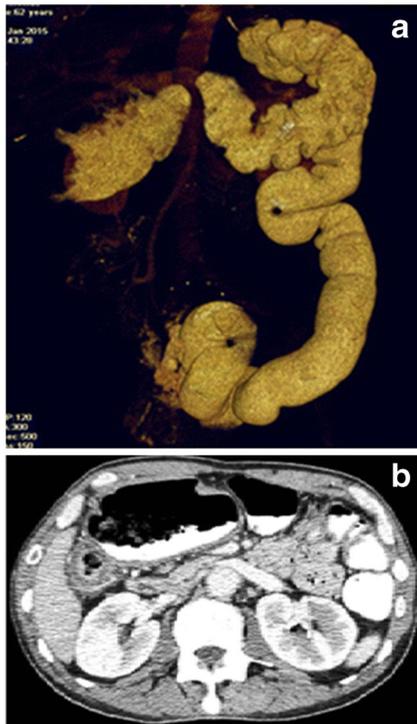
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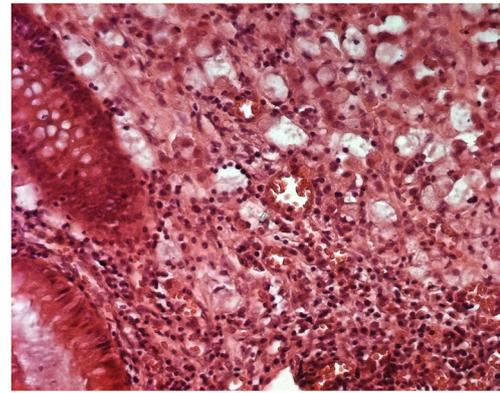
**Fig. 1** **a** Abdominal CT showing circumferential thickening of the right colonic angle. **b** Colo-scanner: endoluminal tumor at the right colonic angle

## Discussion

Despite recent advances in surgery, chemotherapy, and targeted therapy, stomach cancer remains a cancer of poor prognosis. The survival at 5 years is of the order of 20% and reaches 50% after curative treatment [4]. This cancer is characterized by a loco regional and metastatic relapse rate (40 to 65%) [1]. In the Yoo study, the median of recurrence was 21 months [5]. In fact, recurrences after resection of gastric cancer are usually early. In the Shiriasi study, the recurrence rate was 27%, only 6% occurred after 5 years [2].

The risk factors of recurrences of gastric cancer are parietal extension, lymph node invasion, and tumor size [6, 7]. The extension is usually done lymphatically and hematologically. The recurrence sites in stomach cancer are peritoneal, loco-regional or in the liver and lung [5, 7].

Colonic metastases are very rare despite the fact that gastric cancer is their main etiology [3]. Jang et al. collected 23 intestinal metastases among 996 patients in care for gastric tumor. Twenty of them had colonic metastases, and in 16 cases, the disease was multifocal in the colon [3]. The mode of spread of the neoplastic cells to the gastrointestinal tract is not well known. It has been suggested by some authors that intra-luminal propagation of cancer cells is possible and is at the origin of these metastases [8]. This could explain the multi-focal frequency in the Jang series [3]. Moreover, our patient had a very low risk of hematogenous and lymphatic dissemination of his tumor which was classified

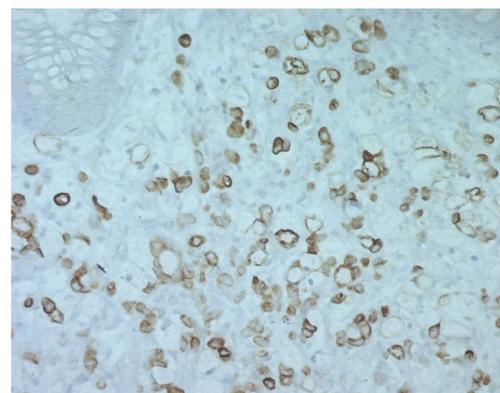


**Fig. 2** H.E  $\times$  200: Infiltration of colic mucoase by a neoplastic proliferation of malignant epithelial cells, displaying signet ring cell features

T2 N0; the intra luminal spread of cancer cells could be the explanation. Propagation, according to other authors, is carried out along the mesenteric reflections and especially the gastro-colic ligaments [9]. This could explain why the transverse colon would be the most frequently reached site [10–13].

Colonic metastases may be synchronous [13]. In the Jang series of 966 gastric cancers, 5 of the 23 intestinal metastases were synchronous [3]. Colonic metastases, like all other metastatic recurrences, come on usually early [3, 10–12].

Naoji et al. carried out a bibliographical search on both pub-Med and the Japanese database and found only 21 cases of colic metastasis of a gastric cancer occurring after 5 years; the transverse colon was the most affected site, and the most common histological type was signet ring cell carcinoma. The mean survival time of these patients after colectomy was 24 months, which suggests that unlike our patient, surgical resection of colonic metastases could be beneficial [14]. Our patient had gastric cancer stage I. The possibility of a tumor recurrence was minimal especially after 8 years of evolution. In published cases of colic metastasis of gastric cancer, no patients had a gastric stage I tumor.



**Fig. 3** IHC  $\times$  200: Multifocal expression of CK7 by neoplastic cells

## Conclusion

The occurrence of a colonic metastasis long after a gastrectomy for cancer is very rare. If this possibility is preoperatively evoked, then the therapeutic attitude, especially that of first chemotherapy, can be changed.

**Acknowledgements** The authors declare that there are no specific acknowledgements

## Compliance with Ethical Standards

**Conflict of Interest** The authors certify that there are funds or conflicts of interest concerning this manuscript.

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