

A rectal metastasis of an unknown lobular breast carcinoma and its management

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Abstract

Breast cancer is the most common cancer in women but gastrointestinal metastases of breast cancer are rare. They can occur years after the diagnosis or at the diagnosis of breast cancer. We report the case of a patient complaining of dyschesia, tenesmus and anal incontinence leading to the discovery of a rectal metastasis of an unknown breast neoplasia. Given the oligo-metastatic condition, multidisciplinary and aggressive management was the chosen therapy. (*Acta gastroenterol. belg.*, 2020, 83, 327-330).

Key words : rectal metastasis, lobular breast carcinoma, management

Introduction

Breast cancer is the most common cancer among women and one of the leading causes of cancer-related death. Since 1991, survival has increased thanks to therapeutic advances, screening and population awareness (1). Unfortunately, 30% of breast cancers will develop metastatic disease after treatment and 5-10% are metastatic, stage IV, at diagnosis (2). Gastrointestinal metastases of breast cancer are rare and more frequent in lobular carcinoma. Mostly, the breast neoplasia is already known and the metastasis can appear many years later, even up to thirty years. We report the case of a patient, with no history of breast cancer, that develops a rectal metastasis of a breast neoplasia without ever finding the primitive breast cancer.

Case report

Mrs. L., 61 years old, consults for tenesmus, dyschesia and faecal incontinence. Her medical history includes a partial thyroidectomy, a total radical hysterectomy and a breast reduction. The physical examination reveals an induration of the rectum and the rectosigmoidoscopy shows an erythematous mucosa up to 10 cm from the anal margin without a visible endoluminal lesion (Fig. 1A) and biopsies are taken. The rectal MRI shows a 1 cm thickening of the rectal wall over a length of 10 cm with no perirectal adenopathy's (Fig. 1B). The histological analysis shows fragments of rectal mucosa with infiltration of the chorion by multiple nucleus cells pushed back into the periphery (Fig. 2A). The further immunohistochemical study demonstrates the epithelial nature of these cells (positive for cytokeratin AE1/AE3) and the presence of the anti-CK7 antibody is confirming an independent cell adenocarcinoma (Fig. 2B). CK 20

and CDX2 are negative, which rules out a digestive origin (Fig. 2C) and the estrogen and progesterone receptors are highly positive (Fig. 2D), as well as the anti-GCDFP15 antibody (Fig. 2E), confirming an adenocarcinoma of mammary origin. The morphology and negativity of the anti-cadherin antibody enables to specify a lobular type. We note the absence of overexpression of c-erb-B2 (NEU-proto-oncogen) and the expression of Ki 67 at 8-10%.

In order to identify a primary mammary neoplasia, a senological check-up is performed with mammography, breast ultrasound and breast MRI but they only show dysplastic breasts after a breast reduction with several calcifications of steatonecrosis and some non-suspicious oval opacities. A small hyporeflexive lesion on the left breast is biopsied and found to be normal. The level of CA 15.3 is slightly elevated.

The chest and abdominal CT scan shows only the thickening of the rectal wall without metastases (Fig. 1C) and the PET-scan, performed the day after the breast puncture, shows a slightly increased activity in the rectum and in the left axillary adenopathy possibly secondary to the breast puncture. Axillary ultrasound performed at the time of the biopsy didn't show any suspicious lymphadenopathies.

After a multidisciplinary discussion, a treatment with an aromatase inhibitor, letrozole, and an antiCD4/6, palbociclib (125 mg per day 3 weeks out of 4), is initiated.

The evolution after 3 treatment cycles is marked by a complete disappearance of Mrs L.'s complaints and a regression of the rectal induration and endoscopic erythema (Fig. 1D) with unfortunately a persistence of tumour cells at histology. A good radiological response is subsequently confirmed, with disappearance of the thickening of the rectal wall on the pelvic MRI (Fig. 1E) and on the thoracoabdominal CT (Fig. 1F). In addition, the bone MRI is normal.

After 6 cycles of treatment it is decided to carry out a proctectomy and a total mesorectal excision under laparoscopy. This is performed without any post-operative complications. Histology shows the persistence

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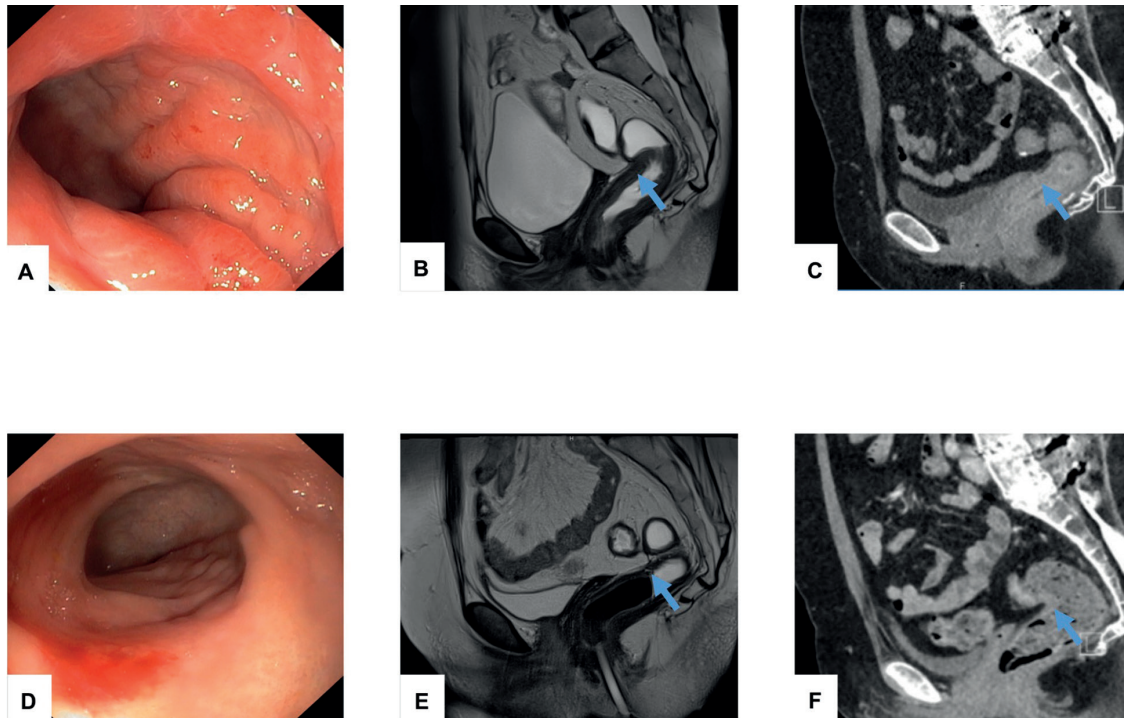


Figure 1. — Clinical presentation of a rectal metastasis of a lobular breast carcinoma of unknown origin. A : Endoscopy shows an erythematous mucosa up to 10 cm from the anal margin. B : MRI shows a 1 cm thickening of the rectal wall over a length of 10 cm. C : The abdominal scan shows also that thickening. D-E-F : Evolution after 3 treatment cycles of letrozole and palbociclib.

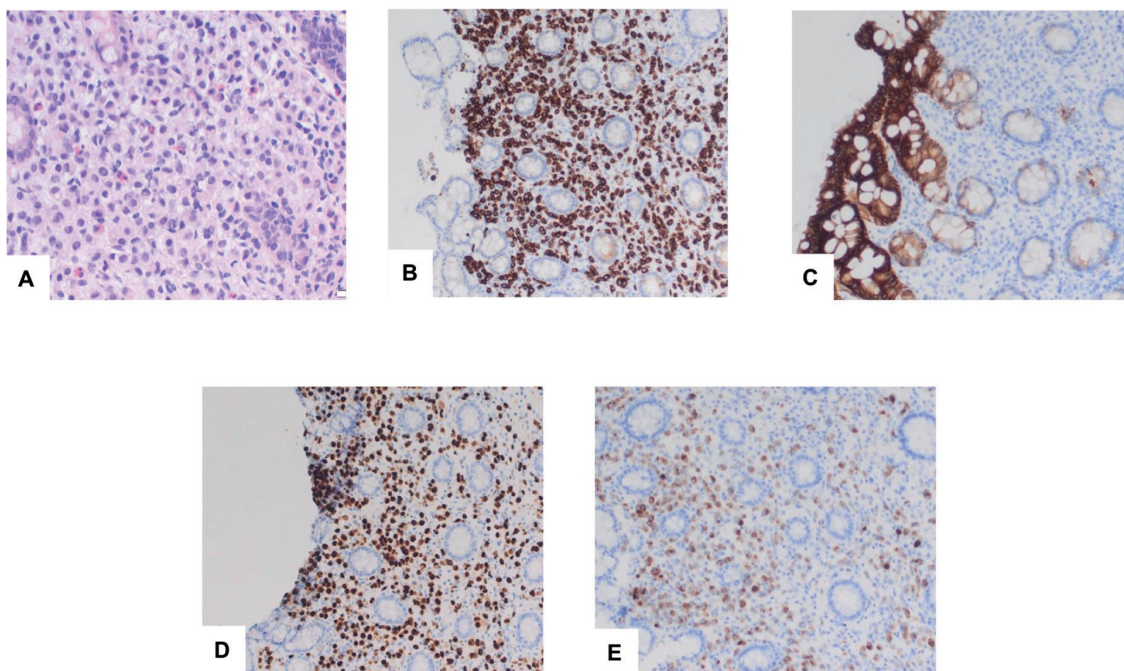


Figure 2. — A : The histological analysis shows fragments of rectal mucosa with infiltration of the chorion by multiple nucleus cells pushed back into the periphery. B : The anti-CK7 antibody is positive, confirming an independent cell adenocarcinoma. C : CK 20 is negative, which rules out a digestive origin. D-E : Estrogen and progesterone receptors are highly positive and anti-GCDFP15 antibody are highly positive confirming an adenocarcinoma of mammary origin.

of small foci of infiltration of the rectal wall by the known lobular carcinoma to the contact of the edge of the circumferential surgical section with the presence of

lymph node metastases (8/14). In order to complete local management, adjuvant radiotherapy is therefore proposed but declined by the patient. Currently, 16 months after

her proctectomy, she is doing well and there is no sign of recurrence. She continues her adjuvant treatment with letrozole and palbociclib.

Discussion

Gastrointestinal metastases of breast cancer are rare and lobular carcinoma is the most frequent histological type. They often form small asymptomatic lesions and their metastasis sites are different compared to ductal carcinomas. They metastasize more easily in the peritoneum, in gynaecological organs and in less than 1% of the cases to the gastrointestinal tract (3,4,5). According to Ambroggi et al (6), the most affected site of the digestive tract is the stomach, in 60% of cases. The rectum was affected in 7% of the cases (Table 1). The other most prevalent secondary lesions to the colon and the rectum are melanoma, lung cancer, ovarian cancer, prostate cancer and kidney cancer (7,8) (Table 2).

Mostly, the breast neoplasia is already known and the metastasis can appear many years later, even up to thirty years. Sometimes the diagnosis of the metastasis is made when the breast neoplasia is discovered. But even more rarely the primary mammary neoplasm is not known (9,10). We report the case of a patient, with no history of breast cancer, who develops a rectal metastasis of a breast neoplasia without ever finding the primitive breast cancer. We suppose that the unknown breast cancer was resected during the patient's breast reduction years earlier but unfortunately the histological slice of the breast reduction could not be recovered.

The symptomatology, the endoscopic appearance and the abdominal imaging are often aspecific. Patients can complain of tenesmus, rectal bleeding or even constipation. Mostly there is a diffusely thickened and stiff wall with stenosis, but it can also look like a primary rectal neoplasia, a colitis (7, 9) or even a normal mucosa was described (11). The MRI presentation of our patient corresponds to what was described previously (12) with diffuse infiltration of the rectum, rather hypo-intense in T2. Immunohistological analysis of independent cells allows the diagnosis: Gross Cystic disease fluid protein GCDFP15 and the presence of estrogen and progesterone receptors are evidence for breast origin (7,11,13,14).

Classically, the median survival of a stage IV breast cancer is 37.22 months and 42.12 months in the ER+PR+HER2- tumours (15). Therefore, endocrine treatments are preferred over chemotherapy because they promote survival and improve quality of life. The National Comprehensive Cancer Network proposes for postmenopausal women with ER+PR+Her2- tumours, like our patient, the combination of an aromatase inhibitor and a CDK 4/6 inhibitor. But stage IV breast cancer is a very heterogeneous group; 1-10% of those patients are very good responders and have prolonged survival. It is even referred to as a potentially curable oligo-metastatic disease (16) if it affects only one or two organs with less than 5 lesions per affected organ with a diameter of

Table 1. — Metastatic involvement of gastro-intestinal tract in breast cancer according to Ambroggi et al. (6)

Site of GI tract	Percentage	Clinical presentation
Oropharynx	1%	Dysphagia, tongue lesion
Esophagus	12%	Stricture, achalasia, nonspecific dysmotility
Stomach	60%	Linitis plastica, obstruction/stenosis, polyp, ulcer/bleeding, perforation, pain, dyspepsia
Small intestine	8%	Obstruction/stenosis, multiple obstructions, peritonitis
Colon	11%	Obstruction/stenosis, symptomatic abdominal mass, multiple strictures/diffuse infiltration, polyp, linitis plastica
Rectum	7%	Obstruction/Stenosis, Rectal bleeding, Abdominal pain, Linitis Plastica
Anum	1%	Polyp

Table 2. — Metastatic tumors to the colon and the rectum according to Galanopoulos et al. (7)

Type of cancer	Percentage of metastatic gastrointestinal involvement
Lung	14%
Ovarian	4-6%
Breast	3-12%
Prostate	1-12%
Renal	Less than 10 cases
Melanoma	7%

less than 5 cm. They have been shown to have a better response to systemic treatment with a 20-year survival of 52% if only one organ is affected (17). In these patients, an aggressive management can be proposed with local treatment to treat macroscopic disease and systemic treatment to treat microscopic disease. The literature lacks prospective studies about the treatment of intestinal metastases of breast cancer, being rare. In most cases rectal metastasis was resected if a primary digestive tract was suspected or if it was symptomatic. In our clinical case, given the presence of a single metastasis without visualized lymph node involvement, we decided, after multidisciplinary discussion in an academic setting, to perform surgical resection and continue treatment with letrozole and palbociclib.

Conclusion

Rectal metastases of lobular carcinoma are rare. We describe the case of rectal metastasis without identification of the primitive. Given the oligo-metastatic stage, treatment with systemic therapy and surgery was the option of choice.

Conflict of interest

No conflict of interest.

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