

A Rare Presentation of Breast Cancer Metastasis to the Anus

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Background	A 35-year-old Caucasian female with a history of stage IV invasive ductal carcinoma of the breast diagnosed at age 30 presented with rectal pain initially diagnosed as an external hemorrhoid.
Summary	The patient had been treated for breast cancer with subsequent brain, spine, lung, and bone metastases. Five years after the initial diagnosis, she was referred for thrombosis of an external hemorrhoid from the emergency department. Biopsy revealed this to be metastatic breast cancer. She continued treatment with hormonal therapy and did not suffer complications from the biopsy. Post-biopsy survival time was two months. This case is consistent with the understanding that gastrointestinal metastases from breast cancer portend a poor prognosis.
Conclusion	Patients with advanced breast cancer have may also present with metastases to the anus. Although lobular carcinoma is more likely to metastasize to the GI tract, ductal carcinoma, as evidenced by this case, also has this metastatic potential. Acute presentation with pain does not rule out the diagnosis. A thorough knowledge of patient history remains important when treating patients, including anal pathology. Surgeons should have a low threshold for excision/biopsy and pathologic confirmation in patients with interval development of anal pathology and history of malignancy, including breast. This represents the first case report of ductal carcinoma with metastasis to the anal margin initially misdiagnosed as a thrombosed external hemorrhoid.
Key Words	breast cancer metastasis; invasive ductal carcinoma; external hemorrhoid; anal margin

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Case Description

A 35-year-old Caucasian female with a history of stage IV breast cancer reported one week of severe rectal discomfort with a “lump” of similar duration to her oncologist. She then presented to the emergency department and was diagnosed with a thrombosed external hemorrhoid. She was referred to a colorectal surgeon.

Figure 1. A Preoperative View of Anal Mass. Published with Permission

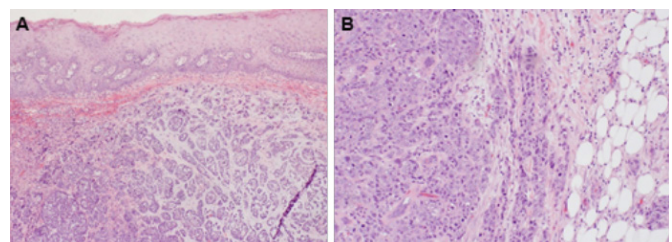


The patient’s history included a breast cancer diagnosis at age 30 during the second trimester of her third pregnancy. During the pregnancy, she underwent a right modified radical mastectomy. The final pathology report showed a poorly differentiated invasive ductal cancer, pT2N1M0 ER 20%/PR16% HER2/neu negative, with one out of seventeen nodes positive for carcinoma. Genetic testing was negative for BRCA 1-2. Postpartum, she completed adjuvant chemotherapy with 5-fluorouracil, doxorubicin, and cyclophosphamide (FAC) regimen and postmastectomy radiation therapy followed by weekly paclitaxel. Two years later, she was found to have a single metastatic lesion of the left upper lung and underwent left upper lobectomy with

pathology showing a poorly differentiated carcinoma similar to her primary breast cancer. One year later, she was diagnosed with liver and bone metastases despite continued chemotherapy. She underwent radiation therapy for both spine and brain metastases.

In the surgeon’s office, the patient presented with continued rectal pain. She was afebrile with stable vital signs. One month prior, she visited the emergency department for constipation caused by extreme rectal pain and pressure. At that time, she was diagnosed with an impaction and external hemorrhoid. She was treated with an enema and released. Based on clinical presentation and appearance, she was again diagnosed with a thrombosed external hemorrhoid in the surgeon’s office (Figure 1). The lesion was pale blue, located in the left lateral quadrant; it was approximately 3 cm × 3 cm in size and exquisitely tender. The patient was offered conservative therapy or immediate surgery per typical protocols to manage a thrombosed external hemorrhoid. The patient opted for surgical excision in the office. An elliptical incision was made, and immediately the surgeon realized this was not a simple thrombosed external hemorrhoid based on the “gritty texture” of the lesion. The patient was then taken for an exam under anesthesia. At the time of surgery, the underlying mass was found to be 2 cm × 2 cm. It had multiple finger-like extensions into the ischioanal space and external sphincter. Upon further exploration, an additional 2 cm × 2 cm mass lateral to the initial excision and deep to the subcutaneous tissue was seen. This was left in place to avoid making a significantly larger wound with no perceived surgical benefit. A digital rectal exam identified two more submucosal masses, which were immobile and again not removed. The final pathology report showed this mass as an adenocarcinoma morphologically similar to her breast cancer (Figure 2). The anal biopsy immunophenotypic findings: ER 0%, PR 0%, and HER-2/neu negative are consistent with breast primary.

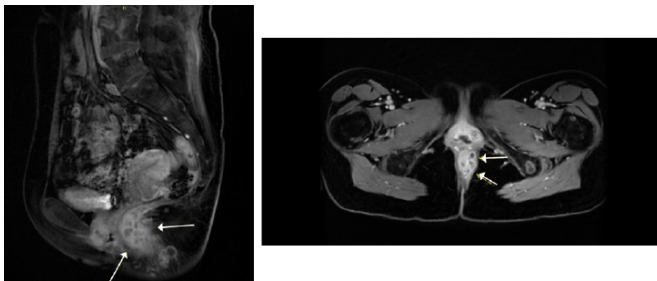
Figure 2. Final Pathology Report Showing Adenocarcinoma Morphologically Similar To Patient’s Breast Cancer Published with Permission



A) Original invasive ductal breast biopsy; B) Anal mass biopsy showing adenocarcinoma morphologically similar to patient’s breast cancer

The patient was discharged two days later, and continued to receive systemic chemotherapy with doxorubicin. During her course, an MRI was obtained (Figure 3) to assess the lesion further, showing tumor involvement of the external sphincter and invasion of the ischioanal space. Two months later, she died peacefully in her sleep.

Figure 3. MRI Performed One Month after Surgery Showing Tumor Involvement of External Sphincter and Invasion of Ischioanal Space. Published with Permission



Discussion

Despite the recent advances in genetics, chemotherapy, radiation therapy, and surgery, there were approximately 42,260 deaths from breast cancer in 2019.^{1,2} The majority of patients will die from metastases. The two most common types of breast cancer, invasive ductal carcinoma (70–80 percent) and lobular (10–15 percent), have different routes of metastases.^{3,4} Ductal carcinoma more typically metastasizes to the brain, lung, and liver, whereas lobular carcinoma more commonly metastasizes to the bones and less commonly to the gastrointestinal (GI) tract.⁵ Malignant melanoma is the most common primary to metastasize to the GI tract.⁶ We are reporting on a recent case of breast metastasis to the anal canal in a young female from an invasive ductal carcinoma masquerading as a thrombosed external hemorrhoid.

Metastatic breast cancer to the gastrointestinal tract is rare. In a series of 12,001 patients, McLemore found only 73 patients with metastatic disease to the GI tract, including 23 in a group with GI metastases only and 18 with GI metastases and carcinomatosis. The majority of metastases were infiltrating lobular cancer of the breast. The mean interval between the primary diagnoses and metastatic presentation was seven years. The most common site was the colon and rectum (45 percent), followed by the stomach (28 percent). There were no metastases to the anal canal. The median overall survival after diagnosis was 28

months.⁷ In contrast to previous studies, Mourra found that in a study of 10,365 patients with colorectal cancer, 35 were found to be metastatic, interestingly the most common being breast cancer followed by melanoma, lung, and sarcoma.⁸

Anal metastases are most rare. The first reported case was reported by Dawson et al. in 1985 of a 70-year-old with invasive lobular carcinoma breast metastases to the anal canal.⁹ Since then, there have been seven case reports of anal metastases from metastatic breast carcinoma worldwide; four with lobular cancer and three with invasive ductal carcinoma.^{9–16} Only one was treated by extirpation.¹⁰ Two were treated with colostomy because of possible obstruction.^{11,13} The patient who underwent resection was disease-free two years later. None presented as a possible thrombosed external hemorrhoid or an anal margin lesion. Their survival time from diagnosis of the anal metastases ranged from a few months to three years.^{10–15} The survival time for patients with IDC is unknown, but this patient survived three months, which supports the grave prognosis with this finding.¹⁵

Traditional universal medical school training has taught that every physical examination always includes a rectal exam; however, this may have fallen by the wayside. This lesion was noted but undiagnosed by physicians for at least one month. Had she been diagnosed with an anal metastasis earlier, would that have made a difference in her overall course? In this case, no. Had the surgeon proceeded in treating the lesion as a thrombosed external hemorrhoid, would the patient have been harmed? In this case, yes. Total excision of the lesion without recognizing this as a metastasis would have led to a morbid, painful, non-healing wound at a time when the quality of life is paramount. Misdiagnosis, therefore, can be avoided with appropriate knowledge of patient history and a high index of suspicion.

In cancer patients who are opioid-dependent, hemorrhoids brought on by relentless constipation are far too common. Diagnosis, therefore, requires a high level of suspicion, knowledge of the patient, and a thorough physical exam. When the diagnosis is made, options should be discussed with the patient, understanding that there are limited treatment options versus palliative care. If isolated and limited in size, resection may not lead to morbidity and could be considered. In this case, resection would have created a very morbid wound and was avoided because it was recognized as atypical.

Table 1. Reported Cases of Anal Metastasis from Breast Carcinoma

Case	Age (years)	Histology	Interval	Clinical presentation	Therapy	Survival
Dawson et al. ⁹	70	ILC	34 months	Altering bowel habit, constipation, anal discharge	Laparotomy and RT	N/A
Haberstich et al. ¹⁰	78	IDC	At diagnosis	Painful anal tumefaction and blood loss with stools	Abdominoperineal resection and RT	Disease-free at 22 months follow-up
Nair et al. ¹¹	57	IDC	7 years	Alternating bowel habit, crampy lower abdominal pain, increased frequency of bowel movements	Colostomy and RT	N/A
Puglisi et al. ¹²	92	ILC	4 years	Tenesmus and painful anal polypoid lesion	RT and hormonal therapy	3 years
Bochicchio et al. ¹³	72	ILC	4 years	Constipation, tenesmus, fecal incontinence	Hartmann rectal amputation and RT	Few months after RT
Rengifo et al. ¹⁴	78	IDC	27 months before diagnosis of BC	Rectal bleeding, weight loss, constipation	RT and hormonal therapy	N/A
Ruymbeke et al. ¹⁵	65	ILC	4 years	stool, intermittent fecal incontinence and tenesmus	Hormonal therapy and chemotherapy	Alive after 15 months
Hasan et al.	35	IDC	5 years	External hemorrhoid, rectal pain and pressure	Chemotherapy, conservative	3 months

Adapted from Ruymbeke et al. with permission from authors

Conclusion

Patients with advanced breast cancer may also present with metastases to the anus. Although lobular carcinoma is more likely to metastasize to the GI tract, ductal carcinoma, as evidenced by this case, also has this metastatic potential. Acute presentation with pain does not rule out the diagnosis. Thorough knowledge of patient history remains important in treating patients with all conditions, including anal pathology. Surgeons should have a low threshold for excision/biopsy and pathologic confirmation in patients with interval development of anal pathology and history of malignancy, including breast. This represents the first case report of ductal carcinoma with metastasis to the anal margin initially misdiagnosed as a thrombosed external hemorrhoid.

Lessons Learned

Appearances may be deceiving when assessing anorectal pathology. A thorough understanding of a patient history remains important. Ductal carcinoma of the breast can metastasize to the anus and present similar to a thrombosed external hemorrhoid. In general, gastrointestinal metastases of breast cancer portend a poor prognosis.

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