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Pancreatic cancer presenting as colonic disease. A rare case report

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ABSTRACT

INTRODUCTION: Pancreatic cancer is the fourth major cause of cancer-related deaths. About 50% of the patients are diagnosed with advanced disease. Metastatic disease to the colon is a very rare entity with only 5 cases described in english literature.

CASE PRESENTATION: Male, 60 years-old, presents to a surgical consult with the diagnosis of an adenocarcinoma of the sigmoid colon. The physical exam revealed a periumbilical nodule with suspicious features. The staging CT-scan showed a mass in the tail of the pancreas involving the spleen and left kidney, thickening of the sigmoid colon, multiple mesenteric masses and trabecular changes in the ischium, suggesting metastatic disease. The case was discussed by a multidisciplinary team and it was decided to do a biopsy of the umbilical nodule and review the specimen obtained in colonoscopy. Pathological analysis revealed a metastasis from pancreatic adenocarcinoma. The patient was proposed to start palliative chemotherapy for metastatic pancreatic cancer. After 2 cycles of FOLFOX the patient was admitted in the OR with a perforation of the sigmoid mass. He was submitted to a sigmoidectomy with end colostomy, with discharge at the 5th postoperative day. Pathological analysis of the specimen confirmed the pancreatic origin of the tumor. Patient proceeded with palliative treatment, with death 9 months after the diagnosis.

DISCUSSION: Pancreatic metastasis to the colon is a very rare entity. Care should be taken when addressing these patients.

CONCLUSION: Although rare, a sigmoid tumor in a patient with known pancreatic adenocarcinoma must raise the suspicion of metastasis.

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1. Introduction

Pancreatic cancer is the fourth most common cause of cancer-related mortality in developed countries [1] with patients having a very poor prognosis. The low survival rate is attributed to several factors, being the most important the late stage at which most patients are diagnosed [2]. At the time of diagnosis, around 50% of patients present with metastatic disease, with only 20% of patients having resectable cancer [3]. The most common sites of metastasis include the lymph nodes, liver, peritoneum and lungs, being colonic metastasis a very rare entity [1]. At our knowledge, only 5 cases of colonic metastasis of pancreatic cancer were reported in english literature [1,4–7], 3 of them of metachronous lesions.

We present a case of metastatic pancreatic cancer to the sigmoid colon as the first sign of disease.

The present work has been reported in line with the SCARE criteria [8].

2. Case presentation

A 60-year-old male, Caucasian, with known history of hypertension and hyperlipidemia is sent to our surgical consult with the diagnosis of sigmoid cancer. The patient had an history of low abdominal pain lasting for 2 months, followed in the last month by intense pain in the left gluteal region, with irradiation to the knee and lower leg. He denied constipation, diarrhea, nausea, vomiting or urinary symptoms.

His assistant physician ordered a colonoscopy which revealed an infiltrative lesion at 23 cm from the anal verge, with a positive biopsy for adenocarcinoma. The physical exam showed a recent umbilical nodule and pain elicited by palpation of the left hip.

Staging chest and abdominal computed tomography (CT-Scan) (Fig. 1) diagnosed a hypodense lesion in the tail of the pancreas with $4.5 \times 4 \times 3.6$ cm, which invaded the spleen, Gerota's fascia, left adrenal and anterior aspect of the left kidney, and multiple regional and para-aortic nodules. The exam also drawn the suspicion of peritoneal carcinomatosis and metastasis to the left iliac bone, further confirmed by bone scintigraphy.

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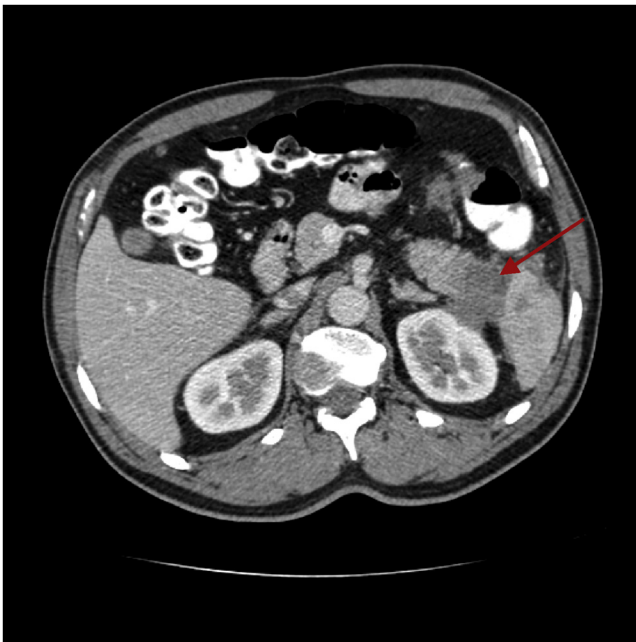


Fig. 1. Staging CT-Scan: Tumor of the tail of the pancreas invading the spleen (marked with a red arrow).

Laboratory findings showed no anemia (Hemoglobin 15.0 d/dL), but very high tumor markers—CEA 126.12 ng/mL and CA 19.9 60333.5 U/mL.

The case was discussed at a multidisciplinary meeting and the panel agreed that it could be a case of sigmoid adenocarcinoma with multiple metastasis. It was decided to do a biopsy of the umbilical nodule and the pancreatic lesion, as to review the specimen of the biopsies of the colonoscopy.

Both the umbilical nodule and the reviewed specimen showed an adenocarcinoma positive for CK7+ and negative for CK20 and CDX2 (Fig. 2), favoring a pancreatic origin of the tumor, and the pancreatic biopsy was dismissed.

The patient started on palliative chemotherapy (CTx) with a FOLFOX regimen 13 days after the confirmation of the diagnosis of pancreatic adenocarcinoma.

After 1 month and 2 administrations of the CTx regimen, the patient presented to the emergency department (ED) with complaints of agitation, mental confusion, fever and low abdominal pain. The physical exam revealed hypotension (systolic blood pressure of 100 mmHg) and a tense abdomen with signs of peritoneal irritation.

Laboratory results included elevation of inflammatory markers (Leukocytosis of 23200/m³ and C-reactive protein of 23 mg/dL) and acute renal failure (Blood Creatinine 2.86 mg/dL). An abdominal CT-Scan was promptly ordered (Fig. 3), diagnosing a pneumoperitoneum and thickening of the sigmoid colon with signs of perforation.

The patient was rushed to the operating room and submitted to an exploratory laparotomy, which showed a perforation of the sigmoid tumor with an associated purulent peritonitis, as multiple peritoneal implants in the mesentery and great omentum. Given the history and the operative findings it was decided to perform a resection of the sigmoid colon with simultaneous colostomy in the left flank.

The post-operative period was uneventful and the patient was discharged at the 5th post-operative day to resume treatment.

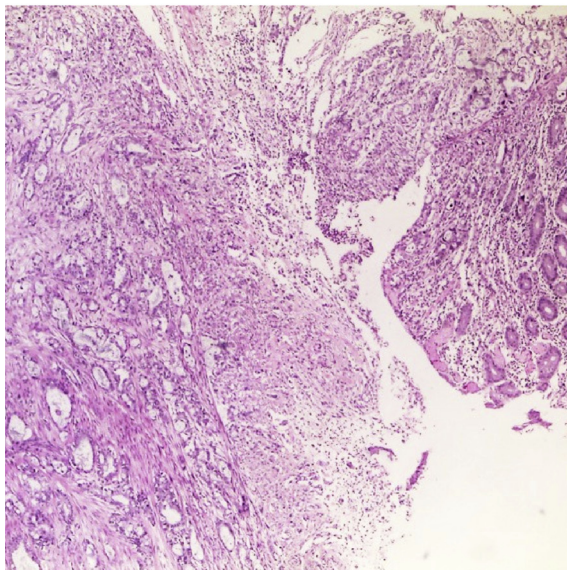
Re-staging CT-Scan after the 7th cycle of FOLFOX evidenced reduction of the pancreatic tumor, without changes in its infiltrative behavior, still compromising the regional organs. Lymphatic spread had grown in size and number, with some nodules showed central necrosis.

Six months after the first surgery, the patient presented to the ED with symptoms of intestinal obstruction and dehydration. He was submitted to an emergency laparotomy confirming extensive carcinomatosis, and a diversion from the ileum to the transverse colon was performed.

Clinical status was gradually degrading with disease progression, being decided with the family to refer the patient to the Palliative Care Unit.

After 9 months of chemotherapy and 9 months and 13 days of the diagnosis, the patient died.

A



B

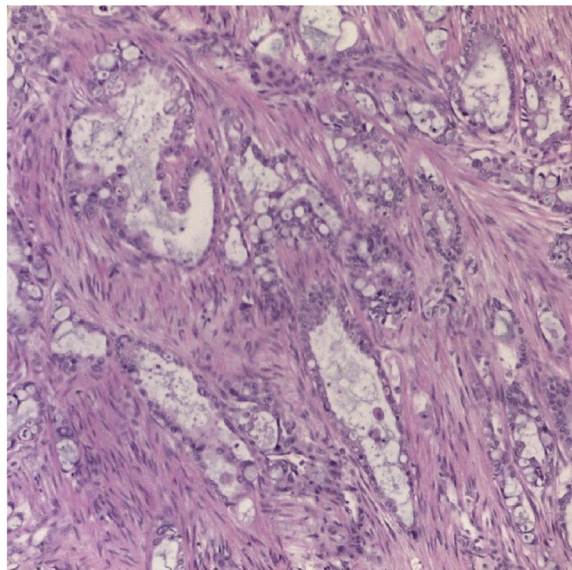


Fig. 2. Pathological analysis of the umbilical nodule: A—Hematoxylin-eosin 40×; B—Hematoxylin-eosin 100×. The images show an adenocarcinoma composed of small and medium-sized glandular structures with pleomorphic nuclei with desmoplastic stroma.

Table 1
Comparison between 4 cases described in literature, 2 of metachronous disease and 2 of synchronous disease. The remaining 2 cases not present here are from metachronous disease.

Author	Patient		Disease					
	Sex	Age	Time of Presentation	Presentation	Diagnosis	Location	Treatment	Follow-up
Woogyeong et al.	Male	64	Metachronous (2 years)	Obstruction	Postoperative	Cecum	Surgery	–
Inada et al.	Male	62	Metachronous (7 years)	Obstruction	Postoperative	Ascending Colon	Surgery	14mo
Bellows et al.	Male	45	Synchronous	–	Postoperative	Ascending Colon	Surgery	–
Nogueira et al.	Male	60	Synchronous	Hemorrhage	Preoperative	Sigmoid Colon	Chemotherapy + Surgery	9mo



Fig. 3. Emergency department CT-Scan, no contrast administration due to renal insufficiency: A–Thickening of sigmoid colon with signs of perforation (marked with the red arrow).

3. Discussion

Surgical resection is the only curative option for patients with pancreatic cancer, however, less than 20% of patients diagnosed may benefit from it [9], since about 80% of patients present with locally advanced or metastatic disease. Metastatic spread to the colon is a very rare entity and it implies special care. As mentioned, there are 5 cases described in English literature, ours being the sixth (Table 1).

The great majority of cases described are from metachronous disease, presenting years after a curative surgery for pancreatic cancer of the head of the pancreas. The metastasis is usually located to the right colon and the diagnosis is postoperative.

In our case, not only the disease is synchronous, but it was diagnosed preoperatively, due to common symptoms of carcinoma of the left side of the colon. Probably due to the location of the tumor in the tail of the pancreas.

The patient presented with a palliative disease, proposed correctly for chemotherapy with the intent of ameliorating symptoms and controlling disease spread. This led to the lysis of tumor cells, including metastatic cells to the colon, resulting in perforation and a need for emergency surgery.

On the other hand, proposing the patient for sigmoidectomy to remove the metastasis before starting chemotherapy would delay the treatment and possibly allow for a rapid spread of the primary tumor.

4. Conclusion

Pancreatic cancer is a relatively uncommon malignancy with slightly over 300000 cases diagnosed worldwide each year [10]. Despite the low incidence, pancreatic cancer is one of the deadliest tumors, with 5-year survival rates of about 6%. Metastatic disease to the colon is a very rare entity, with only 5 cases reported in english literature [1,4–7].

Approach to these patients must be individualized and tailored according to the type of presentation, patient’s complaints and disease status.

Although extremely rare, the presence of a colonic mass in a patient with known pancreatic adenocarcinoma must raise the suspicion of metastasis.

Conflicts of interest

There are no conflicts of interest.

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Ethical approval

Ethical approval for the submission of this case report has been exempted by my institution.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request

Author contribution

- Sara Tavares Nogueira–first surgeon of the case, data collection, data analysis, writing the paper.
- Bruno Lima Pinto–data collection, data analysis
- Eduardo Faria Silva–second surgeon of the case, data analysis
- Hermano Anjos Garcia–data collection
- Francisco Carneiro–article supervision

Guarantor

- Sara Tavares Nogueira
- Eduardo Faria Silva

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