

Case Report

Sigmoid Adenocarcinoma with Regional Scrotal Metastasis

Brenen P. Swofford^a Tomislav Dragovich^b

^aUniversity of Arizona College of Medicine – Phoenix, Phoenix, AZ, USA; ^bBanner MD Anderson Cancer Center, Gilbert, AZ, USA

Keywords

Colorectal cancer · Sigmoid adenocarcinoma · Scrotal metastasis

Abstract

Colorectal cancer is a common disease, representing the third and second most common cause of cancer death in the United States in women and men, respectively. [Ahnen et al.: Mayo Clin Proc 2014;89:216–224; Siegel et al.: CA Cancer J Clin 2016;66:7]. It is estimated that 20% of patients have distant metastatic disease at time of diagnosis [Ahnen et al.: Mayo Clin Proc 2014;89:216–224; Siegel et al.: CA Cancer J Clin 2016;66:7]. The most common metastatic sites include regional lymph nodes, liver, lungs, and peritoneum via lymphatic/hematogenous dissemination as well as contiguous and transperitoneal routes [Ahnen et al.: Mayo Clin Proc 2014;89:216–224; Siegel et al.: CA Cancer J Clin 2016;66:7]. Upon review of the literature, we found that metastatic colon cancer to the scrotum is rare. The following case report proved to be a unique example of this type of metastasis. This rare regional metastasis is theorized to have resulted from a colo-urethro-scrotal fistula that precipitated from the patient's prior traumatic event.

© 2017 The Author(s)
Published by S. Karger AG, Basel

KARGER

Brenen P. Swofford, DO
Banner University Medical Center Phoenix – College of Medicine
1111 E. McDowell Road
Phoenix, AZ 85006 (USA)
E-Mail brenen.swofford@bannerhealth.com

Tomislav Dragovich, MD
Banner MD Anderson Cancer Center
2940 E Banner Gateway Dr Ste 450
Gilbert, AZ 85234 (USA)
E-Mail tomislav.dragovich@bannerhealth.com

Introduction

Colorectal cancer is a common disease process with approximately 130,000 new cases diagnosed annually in the United States [1, 2]. It represents the third most common cause of cancer death in women and the second in men in the United States as well [3]. However, the mortality of colorectal cancer has been declining by a rate of ~3% since 1990 [3]. Review of the current literature reveals that a majority of patients (86%) of those who are diagnosed with colorectal cancer under the age of 50 years are symptomatic when diagnosed [4]. At the time of presentation, it is estimated that 20% of patients have distant metastatic disease, and this finding is associated with a more advanced stage and generally, poorer outcomes [1, 2]. Metastatic colorectal cancer spreads via lymphatic and hematogenous distribution, as well as contiguous and transperitoneal routes [2]. The most common metastatic sites include regional lymph nodes, liver, lungs, and peritoneum; this is due to the venous drainage system of the intestinal tract, which utilizes the portal system leading to liver dissemination, followed by the lungs via the inferior rectal vein which drains into the inferior vena cava [2]. The symptoms at time of presentation are variable depending on the site of metastasis. Colorectal cancer has demonstrated some atypical presentations, for example, with local invasion or via malignant fistula into adjacent organs such as the bladder or small bowel. Additionally, it is estimated that colorectal cancer is the origin of 6% of adenocarcinomas of unknown primary sites [5]. Upon review of the literature, we found that metastatic colon cancer to the scrotum is a rare event. However, the following case report proved to be a unique example of this type of metastasis.

Case Presentation

A 54-year-old male with a 12-year history of urinary retention secondary to a traumatic, untreated saddle injury to the pelvis presented with scrotal pain, swelling, and malodorous discharge from the base of the scrotum. The patient stated that 6 months prior, he was treated for a presumed scrotal abscess with antibiotics. Physical exam was significant for a necrotic wound with an exposed caseous, fungating mass, which was draining urine and purulent exudate at the base of the edematous scrotum (Fig. 1a).

CT of the abdomen and pelvis demonstrated a heterogeneous multiloculated 9 × 9-cm scrotal mass as well as a 5.6-cm contrast-enhancing sigmoid, colonic mass (Fig. 1b). Retrograde urethrogram revealed fistulous tracks, which interconnected between the rectosigmoid colon and the right scrotum. Further imaging and biopsies from the rectosigmoid mass and scrotal mass confirmed the diagnosis of adenocarcinoma of the sigmoid colon with regional scrotal metastasis, respectively, without evidence of lymphatic, liver, or bone involvement. The patient was initiated on capecitabine chemotherapy with consideration for future radiation and pelvic exenteration, which would require a penile resection and urostomy.

Discussion

This case report demonstrates a very unique occurrence. The most common primary tumors with metastasis to the scrotum are prostate, lung, melanoma, and kidney [2, 6, 7]. Upon literature review, we found that colon cancer metastasis to the scrotum is an extreme-

ly rare event with an estimated occurrence of less than 20 reported cases [7, 8]. The majority of these cases presented with testicular swelling and pain, as was present in this case [9]. Current theories regarding scrotal metastasis hypothesize that this occurs via arterial tumor emboli or retrograde venous/lymphatic spread [3, 9, 10]. Given the previous history of a traumatic event, residual infection, and diagnostic studies demonstrating the presence of fistula tracts connecting the sigmoid colon and scrotum, this likely represents the etiology. The patient's primary malignancy of sigmoid adenocarcinoma was then able to metastasize to the scrotum via a contiguous route provided by the fistulas. Prognosis for this diagnosis is generally poor, with most patients' average survival of 6–12 months [7]. It is often frequently discovered that at this point there are metastases in other locations of the body. However, in this patient, the only evidence of malignancy was found at the site of metastasis (scrotum) and the primary source (sigmoid colon). Given the rarity of such an occurrence, it is uncertain how such a disease process will respond to therapy. This case provided a rare example of an uncommon contiguous metastasis of a primary malignancy.

Statement of Ethics

The authors certify that the material in this case report has been acquired according to modern ethical standards and has been presented in such a fashion as to protect the rights of the patient involved.

Disclosure Statement

The authors certify and confirm that no conflicts of interest or biomedical financial interests exist within this case report.

References

- 1 Ahnen DJ, Wade SW, Jones WF, Sifri R, Mendoza Silveiras J, Greenamyer J, Guiffre S, Axilbund J, Spiegel A, You YN: The increasing incidence of young-onset colorectal cancer: a call to action. *Mayo Clin Proc* 2014;89:216–224.
- 2 Siegel RL, Miller KD, Jemal A: Cancer statistics, 2016. *CA Cancer J Clin* 2016;66:7.
- 3 Ryerson AB, Ehemann CR, Altekruse SF, Ward JW, Jemal A, Sherman RL, Henley SJ, Holtzman D, Lake A, Noone AM, Anderson RN, Ma J, Ly KN, Cronin KA, Penberthy L, Kohler BA: Annual Report to the Nation on the Status of Cancer, 1975–2012, featuring the increasing incidence of liver cancer. *Cancer* 2016;122:1312.
- 4 Dozois EJ, Boardman LA, Suwanthanma W, Limburg PJ, Cima RR, Bakken JL, Vierkant RA, Aakre JA, Larson DW: Young-onset colorectal cancer in patients with no known genetic predisposition: can we increase early recognition and improve outcome? *Medicine (Baltimore)* 2008;87:259–263.
- 5 Abbruzzese JL, Abbruzzese MC, Lenzi R, Hess KR, Raber MN: Analysis of a diagnostic strategy for patients with suspected tumors of unknown origin. *J Clin Oncol* 1995;13:2094.
- 6 Patel SR, Richardson RL, Kvols L: Metastatic cancer to the testes. A report of 20 cases and review of the literature. *J Urol* 1989;142:1003–1005.
- 7 Charles W, Joseph G, Hunis B, Rankin L: Problems in colon cancer and a child with renal lymphoma. *J Clin Oncol* 2005;23:22:5256–5257.
- 8 Jubelirer SJ: Metastatic colonic carcinoma to the testes: case report and review of the literature. *J Surg Oncol* 1986;32:22–24.
- 9 Ulbright TM, Young RH: Metastatic carcinoma to the testis: a clinicopathologic analysis of 26 nonincidental cases with emphasis on deceptive features. *Am J Surg Pathol* 2008;32:1683–1693.
- 10 Price EB, Mostofi FK: Secondary carcinoma to the testis. *Cancer* 1957;10:592–595.

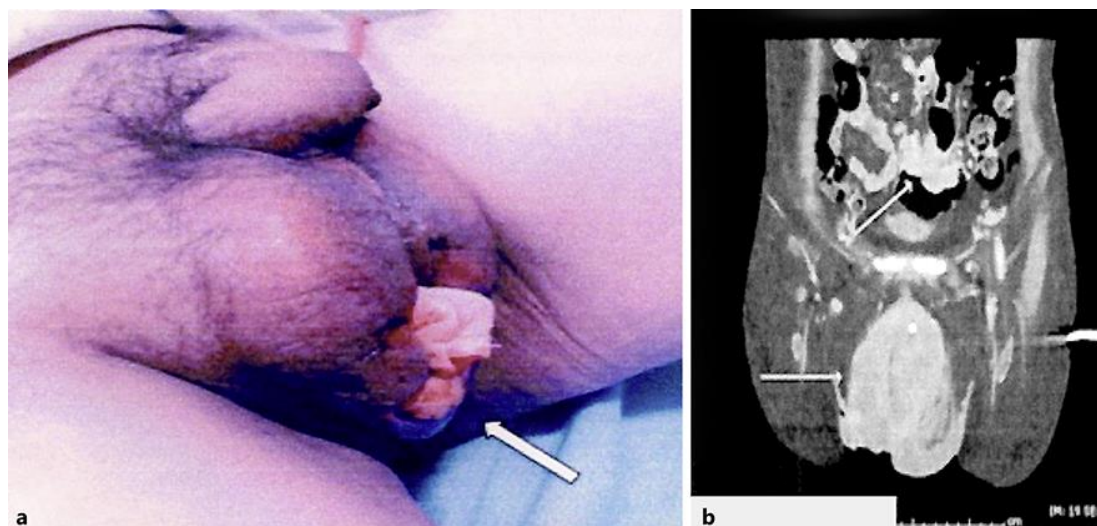


Fig. 1. **a** Necrotic scrotal wound with an exposed fungating mass. **b** CT of the abdomen/pelvis demonstrating a multiloculated scrotal mass and a sigmoid mass.