Case Report

Colon cancer presenting as a testicular metastasis

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Abstract: We report a case of a 43-year-old male who initially presented with intermittent testicular pain as the first sign of metastatic stage IV colon cancer. Physical examination revealed a normal penis, scrotum and testes. Magnetic resonance imaging (MRI) of pelvis showed an irregular 3 cm mass of the spermatic cord and right radical inguinal orchiectomy was performed. The pathological diagnosis was metastatic adenocarcinoma. In conclusion, even though metastases to the testes are rare, they should be considered in clinical practice especially in older men who present with a testicular mass or discomfort.

Keywords: Colon cancer; testicular metastasis

Received: 11 October 2016; Accepted: 11 October 2016; Published: 02 December 2016.
doi: 10.21037/tgh.2016.10.03
View this article at: http://dx.doi.org/10.21037/tgh.2016.10.03

A 43-year-old male presented with 6 weeks of dull right groin and scrotal pain. Physical examination revealed a normal penis, scrotum and testes. The right and left spermatic cords were identified with no masses or swelling. A scrotal ultrasound was unremarkable and showed no focal intra-testicular lesions. The patient was empirically treated with meloxicam with minimal relief. He continued to have intermittent scrotal pain without any aggravating or relieving factors. A computerized tomography (CT) scan of the abdomen and pelvis revealed unusual thickening of the right spermatic cord with a nodular appearance of 2.7 cm × 1.7 cm. There were no other abnormalities noted. Magnetic resonance imaging (MRI) of pelvis showed an irregular 3 cm mass of the spermatic cord at the right internal inguinal ring with posterior infiltration abutting the external iliac vessels. There was no intra-pelvic or inguinal lymphadenopathy noted. Labs showed a normal alpha-fetoprotein (5.6 ng/mL), beta-human chorionic gonadotropin (<3 mIU/mL) and lactate dehydrogenase (64 U/L). The basic metabolic panel and complete blood count were unremarkable. Physical exam now revealed a fixed right testicle that could not be pulled caudally. The penis, right and left epididymis were normal. Given the continued pain, MRI results, and physical exam findings there was concern for a neoplastic process and a right radical inguinal orchiectomy was performed. Immunohistochemical (IHC) staining was positive for cytokeratin 20 (CK 20), CA 19-9 and CEA and negative for p63, cytokeratin 7 (CK 7), calretinin and D2-40. This profile and morphological features support a colorectal or gastric origin (*Figures 1-3*). The pathological diagnosis was metastatic adenocarcinoma. A positron emission tomography (PET) scan revealed multiple foci of abnormal soft tissue uptake in the pelvis, right lower quadrant and right lower abdomen contiguous with the cecum. There were areas of uptake in the right inguinal and recto-sigmoid junction. There were multiple liver metastasis seen. Esophagogastroduodenoscopy (EGD) was normal but the colonoscopy revealed a cecal mass and the patient was, diagnosed with stage IV colon cancer. The patient was started on systemic chemotherapy.

We report a patient who initially presented with intermittent testicular pain as the first sign of metastatic stage IV colon cancer. Metastatic carcinoma to the testis is rare (1) and most often incidentally found on autopsy. The most common tumor to metastasize to the testes is prostate (35%), lung (18%), melanoma (18%), kidney (9%) (1), and colorectal less than 8% (2). Even rarer is that the testicular mass presenting as the first sign of a primary tumor (3). Per Ouellette there are less than 25 reported cases of colorectal cancer presenting as metastases to testis. The first, similar case was reported in 1988 by Meacham *et al.* (2) where a 32-year-old male presented with testicular pain as the initial

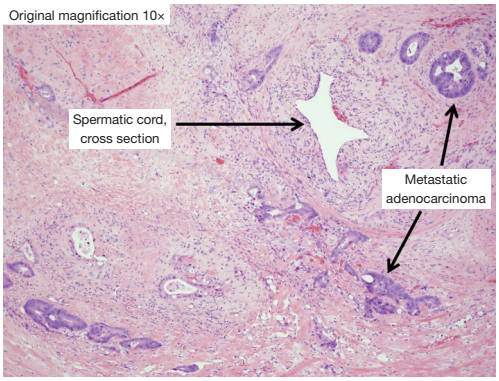

Figure 1 Hematoxylin and eosin stained section. This low power view demonstrates a cross section of the spermatic cord with infiltrating metastatic colonic adenocarcinoma. Original magnification 10×.

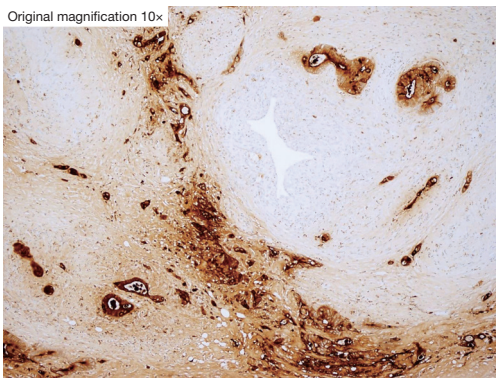

Figure 2 Carcinoembryonic antigen immunohistochemical (IHC) stain. Malignant glands are highlighted with strong positive cytoplasmic staining. Original magnification 10×.

presentation for metastatic colon cancer. Most cases since then have presented as testicular swelling or as a hydrocele and not a solid mass as in our patient (1). The reported age of presentation ranged from 18–76 years with a median of 51 years (1). The exact mechanism of spread is unknown but many theories have been suggested. Since most cases of testicular metastases presented as a hydrocele, it is proposed that there may be microscopic channels of communications present between the peritoneum and testes. Other theories include retrograde venous and lymphatic extension, direct invasion and arterial embolism (4).

In most cases where the initial presentation of colon cancer was testicular metastasis, the average survival was 6–12 months regardless of treatment (1). Once the cancer

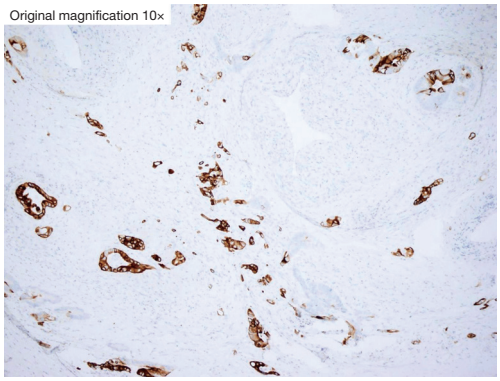

Figure 3 Cytokeratin 20 (CK 20) immunohistochemical (IHC) stain. Malignant glands demonstrate strong positive cytoplasmic staining. Not shown, malignant glands were negative for cytokeratin 7 (CK 7) IHC staining. The CK 20 positive & CK 7 negative staining pattern is seen in colonic carcinoma. Original magnification 10×.

has spread to the testis, the disease is usually wide spread, as in our patient who had metastases to the pelvis, abdomen and liver.

In conclusion, even though metastases to the testes are rare, they should be considered in clinical practice especially in older men who present with a testicular mass or discomfort.

Acknowledgements

None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Informed Consent: Written informed consent was obtained from the patient for publication of this manuscript and any accompanying images.

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doi: 10.21037/tgh.2016.10.03
Cite this article as: Omar HA, Mohiuddin M, Sharif A. Colon cancer presenting as a testicular metastasis. Transl Gastroenterol Hepatol 2016;1:89.

