Synchronous Metastasis of Prostate Adenocarcinoma to the Stomach and Colon: A Case Report

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Abstract

Context: Prostate cancer is the leading cancer diagnosis in males. The most common metastatic site of metastases in patients with prostate cancer is the axial skeleton and local lymph nodes. Rarely has there been a description of metastatic prostate cancer to the stomach, esophagus, small bowel, and rectum. Case Report: We report an unusual case of a patient who was diagnosed with prostate cancer with synchronous metastasis to both the stomach and sigmoid colon. A 71-year-old African American man with a history of prostate cancer was admitted with a hemoglobin level of 6.1 g/dl, which had decreased from the baseline value of 8 g/dl. He underwent an esophagogastroduodenoscopy, which revealed a nodule in the fundus of stomach; a biopsy of the nodule was done. The patient also underwent a sigmoid polypectomy. Both surgical specimens were histopathologically consistent with metastatic adenocarcinoma of prostatic origin. Conclusion: To the best of our knowledge, this is the first case report in literature of synchronous metastasis of prostate cancer to both the stomach and sigmoid colon.

Keywords: Colon, Metastatic prostate cancer, Synchronous, Stomach

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Introduction

Prostate cancer is the leading cancer diagnosis in males, with an estimated incidence of 241,740 in 2012 and total deaths estimated to be 28,170 in 2012.¹ Most common locations of metastases of prostate cancer are the axial skeleton and local lymph nodes.² There are cases in the medical literature that describe prostate cancer metastasizing to the lungs, liver, and adrenals.² There are very few case reports of metastasis of prostate cancer to the gastrointestinal system.²⁻¹⁰ This is, to our knowledge, the first case report of a patient with synchronous metastasis of prostate adenocarcinoma to the stomach and colon.

Case Presentation

A 71-year-old African American man with a medical history significant for hypertension, prostate cancer treated with surgery and radiation therapy over 10 years ago, diabetes mellitus, and a bilateral knee arthroplasty for severe degenerative arthritis was admitted with complaints of weakness and dizziness. He stated that over the past few weeks, he experienced poor activity tolerance. He had to use tables and walls for support while walking. He denied any symptoms of nausea, vomiting, abdominal pain, melena, changes in bowel habit, bright red blood per rectum, or hematuria. Physical examination revealed a thinly built male in no acute distress with pale conjunctiva, otherwise essentially unremarkable. Vitals signs showed a temperature of 97.8, pulse 86, blood pressure 147/88 mm/Hg, and respiratory rate 16. Laboratory data revealed hemoglobin of 6.1gm/dl, hematocrit of 18.3%, platelet count of 196,000/μl, white blood cell (WBC) count of 4,000/μl, mean corpuscular volume of 80 μ³, red cell distribution width of 21.6%, reticulocyte count of 2.1%, blood urea nitrogen (BUN) of 12 mg/dl, creatinine of 0.75 mg/dl, prothrombin time of 15 sec, international normalized
Patel, et al.: Prostate cancer metastases to stomach and colon

Discussion

Only five cases have been described in the medical literature with gastric metastases from prostate cancer.[3-7] Gastric metastasis has been reported infrequently in the past, with an incidence of 1-4% in five postmortem studies.[2-5] All cases initially presented with isolated gastric involvement, but only one case[7] presented with rectal infiltration with prostate adenocarcinoma.

Various proposed routes include hematogenous cavetype spread with and without lung involvement, lymphatic spread, or direct infiltration.[2] Predominant tumor sites for metastases, such as the lungs or liver, have rich capillary vessels and, hence, a constant blood flow which may explain the pathophysiology of tumor spread; however, metastasis to the gastrointestinal tract may most likely occur via the lymphatic route because the prostate has a rich lymphatic drainage.[7-10]

As with other reported cases of gastric metastasis, our patient did not have symptoms of nausea and vomiting.[3-6] Our patient presented clinically with symptomatic anemia and that prompted an upper endoscopic evaluation to identify a gastrointestinal source of bleeding. Green demonstrated that the most common initial symptoms or findings for gastric metastasis from solid tumors were diffuse abdominal pain, nausea and vomiting, anorexia, guaiac-positive stool, and gastrointestinal bleeding.[9]

On histopathology, prostatic adenocarcinoma classically demonstrates the relative lack of nuclear anaplasia,
with nuclear uniformity, paucity of mitotic figures, and the absence of signet-ring cell forms. The diagnosis is confirmed by immunohistochemical staining with a positive PSA stain and a negative mucicarmine stain.

A majority of previous cases that describe the metastasis of prostate cancer to the gastrointestinal tract were, unlike our patient, hormone-refractory and were managed with chemotherapy. In hormone-sensitive cases, similar to our case, total androgen blockade is the most commonly utilized treatment modality. This treatment approach has resulted in a decrease in PSA levels and clinical stability of the disease.

**Conclusion**

This is the first report in the literature of synchronous metastasis to both stomach and sigmoid colon from prostate cancer. Although a very rare disease entity, it is imperative for oncologists, gastroenterologists, and urologists to consider the possibility of prostate carcinoma metastasizing to the gastrointestinal tract in a patient presenting with gastrointestinal symptoms and a history of prostatic adenocarcinoma.

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