



## Case Report

## An Incidental Finding of Recurrent Colorectal Cancer in a Multiple Endocrine Tumor Survivor

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### Abstract

**Introduction:** Colorectal is third most frequently diagnosed cancer among United States adults. Majority of colorectal cancers are adenocarcinoma accounting for over 90% of colorectal cancers. The most common site for metastasis is the liver.

**Case report:** We present the case of a 56-year-old woman with complaints of bilateral hip pain and incidental finding of lower gastrointestinal bleeding. Patient presented 46 months status post resection of colon adenocarcinoma (T4bN0MO) and adjuvant chemotherapy. Surgical history was also significant for resection of nonfunctioning pituitary microadenoma and total thyroidectomy for papillary thyroid carcinoma 26 and 32 months respectively. Patient had no family history of cancer. Complete blood count revealed severe anemia and colonoscopy showed ulcerated sigmoid colon mass and no other lesion in other parts of the large intestine. Restaging imaging detected liver metastasis. The sigmoid mass was resected, and diagnoses was pT3N1a M1.

**Conclusion:** To date, this is the first case of recurrent colorectal cancer in a patient with history of endocrine tumors. Post operative follow-up testing should be tailored based on patient's risk for recurrence.

**Keywords:** colon cancer, recurrent, endocrine

### Introduction

Colorectal cancer (CRC) is the third leading cause of cancer and cancer-related deaths in the US accounting for 9% of all cancer deaths<sup>1,2</sup>. Based on a report by the American Cancer Society (ACS), it was estimated that over 150,000 new cases of colorectal cancer were diagnosed in 2022 and approximately 80,000 died of the diseases<sup>1,2</sup>. Another report by Surveillance, Epidemiology, and End Results (SEER) indicates that 8% of all new cancer cases and cancer-related deaths will be attributable to colorectal cancer, specifically 153,000 and 53,000, respectively<sup>3</sup>. It is well documented that colon cancer

accounts for 70% and rectal cancer about 30%<sup>4</sup>. Nearly 1.4 million US living adults are colorectal cancer survivors<sup>5</sup>.

Whilst sporadic forms of colorectal cancer account for 70% of the disease, genetic and familial presentations of colorectal cancer are well known. The most frequent treatment of primary non-metastatic colorectal cancer is surgical resection however treatment may vary based on the staging of colorectal cancer and patient factors<sup>5</sup>. Despite advances in the

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diagnosis and treatment of CRC, the overall 5-year survival is 65%<sup>3</sup>. Approximately 40% of patients with locoregional disease who had curative surgical care will have experienced recurrence<sup>6</sup>. Of these, the majority recur after 2 years of resection and 90% by 5 years<sup>6</sup>. Specifically, colorectal cancers re-occur in 40% of those with stage II or stage III of the disease after resection of primary colorectal cancer.

Well-documented risk factors that account for recurrence include increasing age, family history, genetics, and prior colon cancer. However, these risk factors do not completely explain the recurrence of colorectal cancers. Here, we present a case report illustrating the finding of a recurrent CRC in a female with a history of multiple endocrine tumors.

## Case Presentation

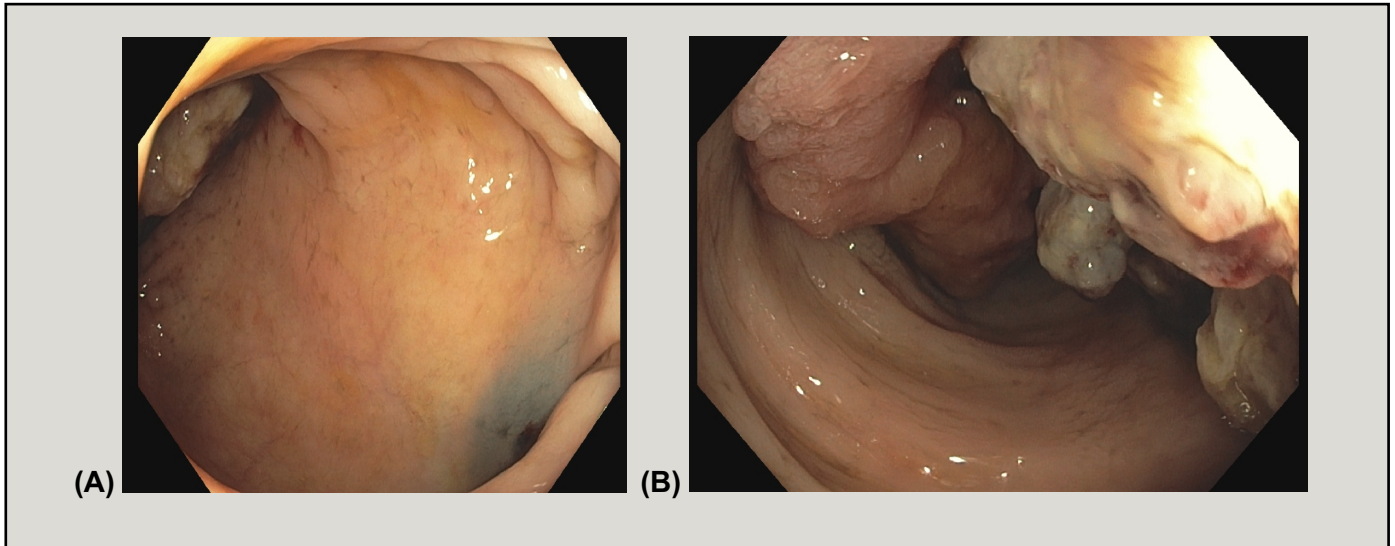
A 56-year-old Caucasian woman was referred to our hospital with complaints of bilateral hip pain and an incidental finding of bleeding per rectum. The patient's medical history was significant for type 2 diabetes mellitus, hypertension, migraine headaches, bilateral blindness, obstructive sleep apnea, hyperlipidemia, and hypothyroidism. The patient could not give details about when the passage of bloody stools started because she was blind. However, she reported a history of lightheadedness, dizziness, palpitations, and exertional fatigue.

She was 46 months status post left hemicolectomy (for sigmoid adenocarcinoma), total thyroidectomy (papillary thyroid carcinoma), and resection of nonfunctioning pituitary microadenoma. The patient took non-steroidal anti-inflammatory drugs for hip pain with minimal relief. Initial evaluation at the source of referral hospital showed bloody stools on digital rectal examination, and hemoglobin (Hb) was 4.9 g/dL. Hence, the patient was transfused with one unit of packed red blood cells and then referred for higher care.

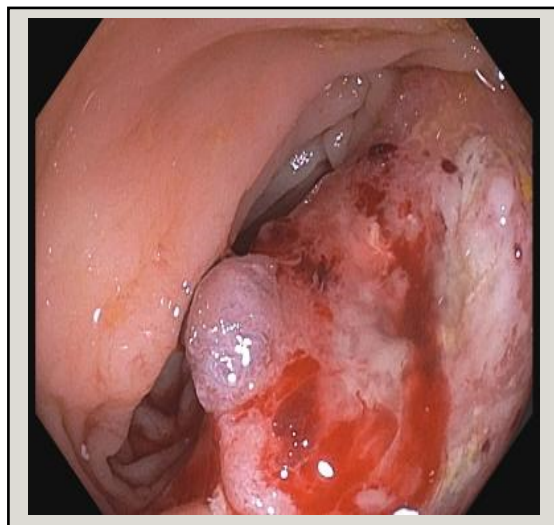
At the emergency department, a physical examination showed a pale patient, mild hip tenderness, and dark stool on digital

rectal examination. No palpable abdominal mass or distension and no palpable rectal masses were noted. Laboratory investigation showed Hb 6.3 g/dL. Colonoscopy showed a large bleeding ulcerated sigmoid colon mass (1.5 x 2.0 cm) located approximately 20 cm from the anal verge, and biopsy detected a sigmoid colon adenocarcinoma. Subsequent pathological diagnosis was pT3N1a M1. Computerized tomography of the abdomen and pelvis demonstrated multiple low-density nodules in the liver consistent with hepatic metastasis. Brain and chest computerized tomography scan detected no brain metastasis. The patient subsequently had left colon resection, primary anastomosis, and extensive lysis of adhesions.

Notably, a colonoscopy done 1 year and 2 years after the first colorectal surgery showed no secondary colorectal cancer. Hence, the patient was scheduled for a colonoscopy after 3 years. Figures 1a and 1b provide information on the first colon cancer in the sigmoid colon, whereas Figure 2 shows the recurrent colon cancer lesions.



**Figure 1.** (A) First primary sigmoid mass shown via colonoscopy. (B) First primary sigmoid mass



**Figure 2.** Recurrent Sigmoid Adenocarcinoma

## Discussion

Colorectal cancer, a leading cause of cancer-related deaths in both US men and women frequently affects adults aged 65 to 74 years.<sup>2</sup> It is estimated that approximately 1 in every 10 new CRC cases occur in adults less than 50 years.<sup>3</sup> In 2019, 36 new CRC cases and 13 CRC-related deaths were reported for every 100,000 persons in the United States.<sup>3</sup> In 2021, the U. S. Preventive Services Task Force

reviewed CRC screening guidelines and recommended CRC screening should commence between 45 and 49 years.<sup>7</sup> Nearly 76% of CRC are diagnosed in local (Stage I-II) or regional stages (Stage III). After surgical treatment of primary CRC, up to 95% of CRC recur in the first 5 years, and the most common site for metastasis is the liver.

Although a decline in CRC-related mortality within the last few decades is good news, CRC survivors without metastasis face the risk of colorectal cancer recurrence, development of a new primary with metastasis, or other cancers.<sup>5</sup> Post-operative surveillance of colorectal cancer after surgery comprises history and physical examination, carcinoembryonic antigen (CEA), computed tomography (CT) scans, and endoluminal imaging, including colonoscopy, sigmoidoscopy, endoscopic ultrasound (EUS), and CT colonography (CTC).<sup>6</sup> Although different organizations recommended guidelines on follow-up after curative treatment, post-operative surveillance for CRC survivors remains a controversy. For patients with stage I through stage III CRC, the American Cancer Society (ACS) CRC Survivorship Care Guidelines recommends that screening and early detection of CRC recurrence and/ second Primary Cancers in the first 2 years should include (i) history and physical and CEA every 3-6 months ii) chest/abdominal/pelvic CT every 12 months and iii) colonoscopy in year 1 and year 3 if advanced adenoma is not visualized in first post-treatment colonoscopy.<sup>5</sup> During 3-5 years post-treatment, these patients should have history and physical, and CEA every 6 months, chest/abdominal/pelvic CT every 12 months, and colonoscopy in the 4<sup>th</sup> year postoperative year. If an adenoma is not seen, a follow-up colonoscopy should be done every 5 years.<sup>5</sup> Recommendations for follow-up care by the American Society of Colon and Rectal Surgeons and ASCO are largely consistent with guidelines by ACS with the exception of CEA every 3 months for up to 3 years post-treatment and annual CT of chest /abdomen should be based on physician's recommendation.<sup>8</sup>

This case demonstrates the unusual presentation of recurrent sigmoid colon cancer in a female patient with recurrent CRC despite colonoscopy at 1 year and 2 years post surgery and CT scan imaging after primary resection. Pathologic analysis showed T4B N0 M0 in the primary lesion. The recurrent CRC was associated with liver metastasis, which was also confirmed on liver biopsy. This patient was followed up according to the guidelines

described earlier in this report. An interesting finding in this case was the prior history of endocrine tumors- pituitary adenoma and papillary thyroid cancer 26 months and 32 months, respectively after the first colorectal surgery. Notably, the patient had no family history of cancer. To our knowledge, colon cancer is not included in the Multiple Endocrine Neoplasm classifications. Hence, postoperative surveillance should be adjusted based on the patient's history.

## Conclusion

Colon cancer remains a major health concern in the US contributing significantly to morbidity and mortality among US adults. While treatment advancements that have led to improved patient outcomes are good news, the risk of recurrence posits a significant challenge. This case report underscores the possible complexity of colon cancer care in those with co-morbidities and emphasizes the need for personalized care and individualized treatment plans, especially in patients with complex medical histories. Further research to identify potential associations between colon cancer and other tumors, such as endocrine tumors may develop innovative therapeutic approaches and offer novel therapeutic targets.

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