

Carcinoid Tumor of the Small Bowel as a Cause of Lower Gastrointestinal Bleeding: Case Report

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The presence of a carcinoid tumor as a cause of lower gastrointestinal bleeding is rare and to our knowledge only 16 detailed cases have been reported in the medical literature to date (1-3). We report an unusual case in which carcinoid tumor was the cause of lower gastrointestinal bleeding and in which upper endoscopy, colonoscopy, and mesenteric arteriography failed to detect the source of bleeding. A diagnosis of lower gastrointestinal bleeding secondary to carcinoid tumor was made following in vitro scintigraphy with technetium-99m labeled red blood cells and enterocolysis.

A 69-yr-old male was admitted to the hospital because of lower gastrointestinal bleeding manifested by maroon colored stools. His past medical history was positive for a right hemicolectomy for Duke's A adenocarcinoma of the colon arising from an adenomatous polyp. Colonoscopy 1 yr following his right hemicolectomy was normal. There was no history of diarrhea or flushing. His hematocrit at admission was 28.3 which decreased to 24.7 following fluid resuscitation, necessitating multiple blood transfusions. Upper gastrointestinal (GI) endoscopy, colonoscopy, and mesenteric arteriography were all normal without demonstration of the source of patient's lower GI bleeding.

We performed an initial in vitro technetium-99m (^{99m}Tc) labeled red blood cell (RBC) study utilizing the Brookhaven technique (4). Images were acquired dynamically in a 64 by 64 word mode at 60 sec per frame for 90 frames and the results were normal. A repeat study was performed five days after the initial study and the delayed images demonstrated diffuse activity throughout the colon, with a localized area of increased activity (suggestive of a bleeding focus) in the right upper quadrant (Fig. 1). Unfortunately, scintiphotos were not obtained to document the initial focus of activity specifically, since the patient was actively bleeding per rectum prior to the acquisition of the images on the repeat study.

Following the ^{99m}Tc -labeled RBC study, an enterocolysis was performed, which revealed a lesion in the small bowel (Fig. 2). An exploratory laparotomy with enteroscopy and

segmental small bowel resection were performed 21 days after admission. These studies revealed that the patient had polypoid lesions in the small bowel at a distance of ~20 cm from the site of previous ileal-colonic anastomosis (Fig. 3). Pathology of these polypoid lesions was consistent with benign carcinoid tumors of the small bowel.

DISCUSSION

Oberndorfer first used the term "karzinoid" in 1907 to describe small bowel tumors which histologically resembled adenocarcinoma (5). After the appendix, the small intestine is the second most common site of gastrointestinal carcinoid tumors. The majority of these tumors arise from the ileum (6) as did our patient's tumor.

The first case of carcinoid tumor diagnosed by scintigraphy was reported in 1974 (5) using ^{99m}Tc pertechnetate. Carcinoid tumors of the small bowel are usually asymptomatic and rarely present as a cause of lower gastrointestinal bleeding.



Fig. 1. Technetium-99m labeled RBC study with diffuse uptake of radiopharmaceutical throughout the colon and a prominent focus of activity in the right upper quadrant.

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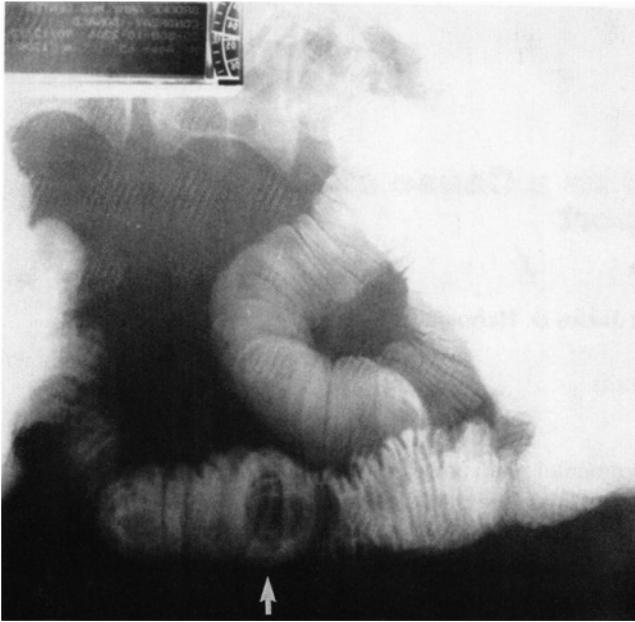


Fig. 2. Enterocolysis image with filling defect in small bowel (arrow).

The diagnosis of a bleeding small bowel carcinoid tumor prior to surgery is very difficult, as demonstrated in this patient. As reported by Kreis et al (3), only 57% of patients who presented with gastrointestinal bleeding had positive arteriograms and all the reported detailed cases underwent exploratory laparotomy.

Our case report demonstrates the utility of a ^{99m}Tc -labeled RBC study, enterocolysis, and, if necessary, intraoperative enteroscopy to diagnose the cause of lower gastrointestinal bleeding, especially if a carcinoid tumor of the small bowel is suspected. Although carcinoid tumors are rare and do not usually present with lower gastrointestinal bleeding, we recommend that this diagnosis be considered, especially when the source of the bleeding is not apparent during evaluation with other modalities, such as ^{99m}Tc pertechnetate scintigraphy, colonoscopy, and arteriography.

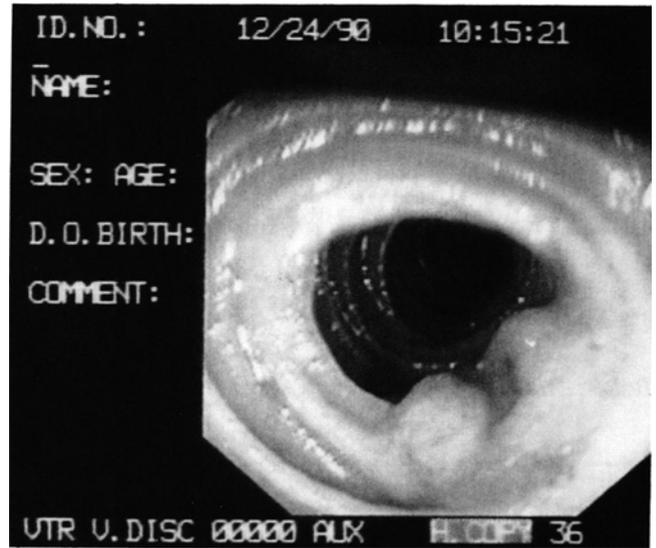


Fig. 3. Polypoid lesions found on exploratory laparotomy at ~20 cm from previous site of ileal-colonic anastomosis.

DISCLAIMER

The opinion or assertions contained herein are the private views of the authors and are not to be construed as official or reflecting the views of the U.S. Army or the Department of Defense.

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