

Case Report

Carcinoma of Colon: A Rare Cause of Fever of Unknown Origin

Wei Dai¹, Kyu-sung Chung^{2*}¹Department of Gastroenterology, the First Affiliated Hospital of Kunming Medical College, Kunming 650032, China²Department of Gastroenterology, the Affiliated YanAn Hospital of Kunming Medical College, Kunming 650051, China

DOI: 10.1007/s11670-012-0157-0

©Chinese Anti-Cancer Association and Springer-Verlag Berlin Heidelberg 2012

ABSTRACT

Fever of unknown origin (FUO) was originally defined as a body temperature greater than 38.3°C on several occasions longer than 3 weeks, with a diagnosis that remains unclear after 7 days of obligatory investigation. Only a few types of solid tumors have been associated with FUO. We described 2 patients who had recurrent fever but no other specific gastrointestinal symptoms where carcinoma of the colon was the only identifiable cause. In the first case, a mass arising from the sigmoid colon was found without any nodal metastasis, and the fever was resolved after three days of the surgical resection. In the second case, advanced adenocarcinoma was found in the ascending colon together with liver cirrhosis. Although it was not possible to surgically remove this tumor, prolonged fever in the patient was most likely due to the carcinoma. These cases indicate that clinicians should consider carcinoma of the colon in the differential diagnosis of patients with FUO.

Key words: Colon; Carcinoma; Fever; FUO

INTRODUCTION

Fever of unknown origin (FUO) is defined as recurrent fever of 38.3°C or higher, lasting 2–3 weeks or longer, where a cause cannot be identified after one week of hospital evaluation. Nowadays, prolonged and undiagnosed fever is a serious clinical problem as the diseases underlying FUO are numerous and complicated. Pyrexia associated with tumors is sometimes noted in elderly patients, but underlying solid tumors and lymph nodes are usually easily detected by modern imaging modalities^[1]. One large-scale Caucasian population-based study showed that FUO in cancer patients is associated not only with malignancies of hematologic origins but also with some solid tumors including colorectal adenocarcinoma^[2].

The objectives of this study were to report 2 cases of FUO that were eventually determined to be due to carcinoma of the colon, to discuss useful diagnostic modalities in this scenario, and to review the association of FUO with carcinoma of the colon through a computer-assisted search of the English-language literature and cross-checks from other review articles.

CASE REPORT

Case 1

A 47-year-old obese man was referred to the Department of Gastroenterology for evaluation of FUO (up to 38.8°C) that has been documented over the past 4 years. The patient had previously been admitted to hospitals for diagnostic work-up and definitive treatment. As the cause had not been determined, empirical trials with several antibiotics had been undertaken. The fever was controllable by a standard dose of acetaminophen and he habitually took this medication. In a previous diagnostic work-up in July 2006, a computerized tomogram (CT) of the abdomen, not including the pelvis, revealed tiny stones with a thickened gall bladder wall. On further questioning, he denied right upper quadrant pain and any food-related pain. A cholecystectomy was electively performed for the diagnosis of chronic cholecystitis due to gall bladder stones, but the fever was sustained thereafter as usual.

In April 2009, he was readmitted for further evaluation. His only complaint was that of fever and he denied weight loss, loss of appetite, diarrhea or constipation. Physical examination was normal including body temperature and rectal examination. The only abnormal result during a comprehensive work-up for FUO was an elevated C-reactive protein (CRP) at 2.4 mg/dl (normal range is below 0.8

Received 2011–04–28; Accepted 2011–06–15

*Corresponding author.

E-mail: duloswife@hanmail.net

mg/dl)^[1]. On this occasion, however, the gastrointestinal tract underwent endoscopic examination. Colonoscopy revealed a mass lesion in the sigmoid colon that extended from 16 cm through 30 cm from the dentate line of the anus (Figure 1). The colonoscope was readily passed through this segment and the remainder of the colon and the terminal ileum were normal. The mass was a multilobular tumor that the most part mildly protruded into the sigmoid lumen and had discrete pin-point mucosal ulcers and erosions over it. An abdominopelvic CT scan demonstrated a huge mass with wall thickness in the sigmoid area was present in ten consecutive scans of 1 cm interval (Figure 2). No lymph node enlargement was noted. He underwent a laparotomy and a 6 cm×8 cm mass growth arose from the sigmoid colon, with penetrating to the surface of the visceral peritoneum. A left hemicolectomy was performed. Pathological examination of the resected specimen showed well to moderately differentiated adenocarcinoma involving all layers and pericolic tissue (Figure 3). None of twenty-six lymph nodes were involved with adenocarcinoma, compatible with TNM stage IIb (T4aN0M0). From the fourth post-operative day, the fever that had been present pre-operatively, had been resolved. The patient received 6 cycles of oxaliplatin-based chemotherapy. He has had no recurrence of fever with a follow-up that is now 12 months.

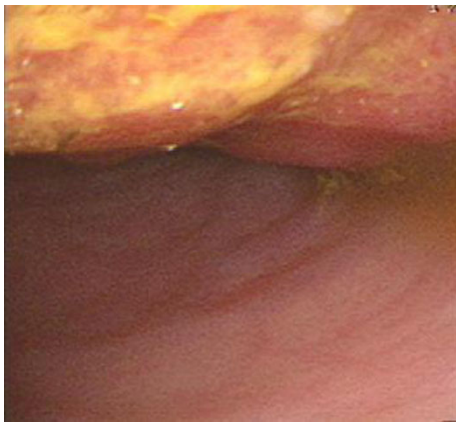


Figure 1. Colonoscopic findings in Case 1: a multilobular tumor was protruding into the sigmoid lumen.

Case 2

A 58-year-old woman presented for the evaluation of ascites and FUI of up to 38.3°C for about two months. She had been diagnosed by another medical institute as having liver cirrhosis with ascites in October 2007. She denied any symptoms referable to hepatic encephalopathy, skin lesions, serious weight change, altered bowel habit or stool color change. In May 2008, physical examination showed body

temperature of 37.8°C, mild pallor of the conjunctiva and abdominal distension. Hemoglobin was 99 g/L and iron level was 15 (normal >50), compatible with iron deficiency anemia. Serum albumin was 31 g/dl and other blood indices were within normal ranges. Abdominal paracentesis showed a total leukocyte count of 250/mm³ and cultures were negative. Repeated cultures of blood and urine, skin testing for tuberculosis and screening for autoimmune diseases were negative. A CT scan showed a cirrhotic liver, mild splenomegaly and ascites. A 7-day empirical trial with cefotaxime 2 g for every 8 h intravenously (iv) failed to lower body temperature. A culture of a bone marrow aspirate was negative. The patient was discharged herself and subsequently was able to control her fever and abdominal distension through acetaminophen and diuretics with intermittent iv albumin over the next year.



Figure 2. Contrast enhanced CT scan of the pelvis in Case 1: an inhomogeneous soft tissue mass and thickening of the wall of the sigmoid colon are seen.

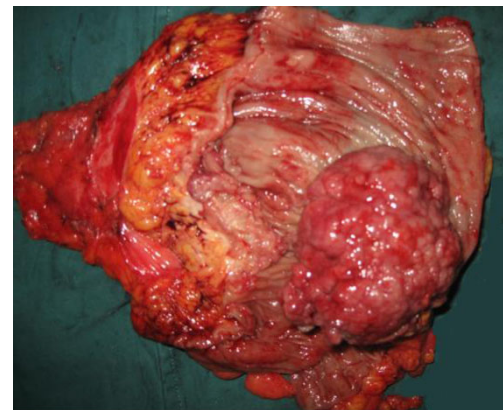


Figure 3. Gross finding of the resected tumor in Case 1 shows polypoidal mass with an irregular surface.

In June 2009, she was readmitted with the same complaints as 2008 for a repeat comprehensive work-up including paracentesis, repeated cultures, auto-antibody tests, and upper and lower digestive endoscopies. Meanwhile, the fever persisted despite empiric therapy both moxifloxacin 400 mg for every