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Clinical Communications: Adults

OPENING AEOLUS' BAG OF WINDS: ACUTE ABDOMINAL PAIN IN A SEVERELY IMMUNOSUPPRESSED PATIENT

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□ **Abstract—Background: Necrotizing enterocolitis (NE) is a necrotizing disease mostly of the ileocecal region. It is a severe and potentially life-threatening complication that can affect patients undergoing chemotherapy for lymphoma. We analyze a case of NE that occurred in a patient with non-Hodgkin's lymphoma during chemotherapy with concurrent HIV infection. Case Report: We present a case of a 37-year-old woman who was admitted to our emergency department because of acute abdominal pain. Her medical history included HIV infection and B-cell immunoblastic lymphoma. For the latter, the patient was receiving rituximab cyclophosphamide hydroxydaunorubicin oncovin vincristine prednisone (R-CHOP) regimen. A complete blood count showed a low leukocyte count (40/mm^3) and a low neutrophil count (32/mm^3). An exploratory laparotomy with midline incision was performed. Intraoperatively, the cecum and the proximal part of the ascending colon were found to be edematous with the mesocolon being extremely gelatinous without macroscopically identified ischemia. Histopathology revealed a nonspecific infarction necrosis of the bowel wall with multiple ulcerations in the cecum, but no evidence of major vessel thrombosis. The patient had an uneventful postoperative course and was discharged in good condition on the 10th postoperative day. Why Should an Emergency Physician Be Aware of This?: To our knowledge, this is the first reported case of NE in a patient with acquired immune-deficiency syndrome who developed the syndrome during an episode of severe neutropenia and was treated surgically. The decision to operate should be balanced between the clinical and laboratory status as well as the operative risk. Physicians should be aware of this complication of chemotherapy, especially in severely immunosuppressed patients, because it could be triggered just by an episode of neutropenia.**

□ **Keywords—neutropenic enterocolitis; AIDS; chemotherapy; surgery; adults**

INTRODUCTION

First described by Cooke in 1930, neutropenic enterocolitis (NE), also known as necrotizing enterocolitis, is a necrotizing inflammatory disease of the ileocecal region in which the entire colon is sometimes involved with a pathogenesis that is ominous and not well clarified (1). NE is a severe and potentially life-threatening complication that can affect patients receiving chemotherapy for acute leukemia or lymphoma (2). It often occurs after high-dose chemotherapy due to severe neutropenia (2). An association between NE and use of certain antineoplastic drugs has also been described (3,4).

The main cause of death in these patients is systemic sepsis through bacterial or fungal translocation across

Written informed consent was obtained from the patient who participated in this case.

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the intestinal wall. The main treatment trend is the conservative approach because improvement, which is often rapid, occurs when the absolute neutrophil count rises. However, a surgical approach consisting of resection of the colon can sometimes be necessary, even in patients with complete aplasia and at high risk for complications. The right time to operate is difficult to determine and more difficult to justify. Intestinal wall thickness, evaluated by ultrasound, is an important prognostic factor that could act as the crucial criterion for indication for surgery (5). It is also suggested that, beyond intestinal wall thickness, hemodynamic worsening should be considered an indication for surgery (5).

We analyze a case of NE that occurred in a patient with non-Hodgkin's lymphoma during chemotherapy with concurrent human immunodeficiency virus (HIV) infection. We highlight the impact of the clinical status of the patient in our decision for surgery and the discrepancy between clinical and intraoperative findings.

CASE REPORT

We present the case of a 37-year-old woman who was admitted to our emergency department because of acute abdominal pain that began 2 days earlier. The patient was diaphoretic and in agony. She was in hemodynamic instability (blood pressure 80/43 mm Hg, heart rate 103 beats/min, SpO_2 93%) and received rapid initial resuscitation with fluids and inotropes. Her medical history included HIV infection with complete response (undetectable viral copies) after being treated with 2 nucleoside reverse transcriptase inhibitors (abacavir and lamivudine) and a third single protease inhibitor (atazanavir). The infection was diagnosed after the diagnosis of B-cell immunoblastic lymphoma, which was correctly considered as an acquired immune-deficiency syndrome (AIDS)–related lymphoma. For the latter, the patient was receiving rituximab cyclophosphamide hydroxydaunorubicin oncovin vincristine prednisone (R-CHOP) regimen.

The abdominal examination revealed significant and diffuse tenderness and guarding. A complete blood cell count showed a hematocrit of 27% (hemoglobulin 8.7 mg/dL), low leukocyte count (30/mm^3), low neutrophil count (10/mm^3), and platelet count of 30,000/mm^3. Aspartate transaminase and alanine transaminase levels were 126 U/L and 101 U/L, respectively, and the remainder of the biochemistry test results were normal. Abdominal computed tomography (CT) scan showed thickening of the ileal and cecal walls (8 mm) and pericecal and perihepatic fluid and inflammation in the pericecal soft tissue (Figure 1).

Due to the clinical impression and the septic status of the patient, the decision for immediate surgical intervention due to acute abdomen was made. An exploratory laparotomy with midline incision was performed. Intraoperatively, profound ascites was found without the presence of pus or pseudomembranes. The cecum and the proximal part of the ascending colon were edematous, with the mesocolon being extremely gelatinous without macroscopically identified ischemia (Figure 2).

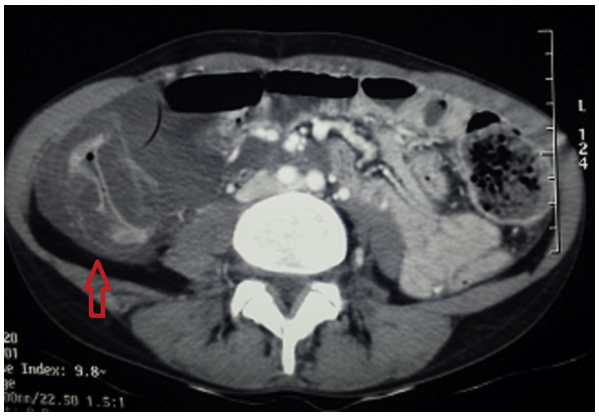

Figure 1. Abdominal computed tomography scan with profound thickening of the ileal and cecal walls (8 mm), and pericecal and perihepatic fluid (arrow).

The mesenteric vessels were patent with adequate pulsations. Right hemicolectomy and ileo-transverse end-to-side two-layer anastomosis were performed. Histologic examination revealed marked submucosal and subserosal edema without any findings of acute or chronic inflammation (Figure 3). The muscularis propria was distorted by edema and exhibited areas of lytic alternation. The mucosa showed focally hemorrhagic necrotic changes in association with thrombosed small vessels. On the mucosa surface and within abundant mucin, collections of microbes as well as Candida spores were detected (Figure 4). The final diagnosis, based on histology and the patient's neutropenia, was NE.

The patient had an uneventful postoperative course and was discharged in good condition on the 10th postoperative day.

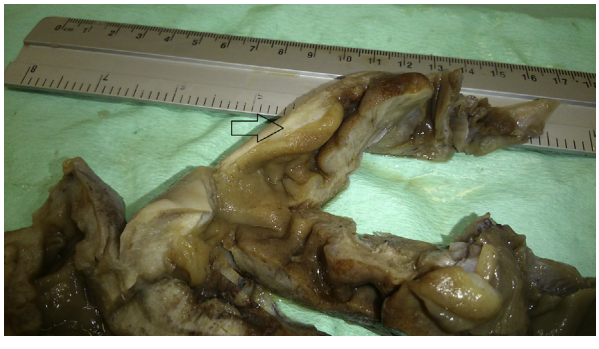

Figure 2. The specimen of the right hemicolectomy presenting the cecum and the proximal part of the ascending colon with edema and extremely gelatinous mesocolon without macroscopically identified ischemia (arrow).