Acute myelogenous leukemia and acute leukemic appendicitis: A case report

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INTRODUCTION

Acute myeloid leukemia (AML) affects middle-aged adults. When the disease involves soft tissue, it is called granulocytic sarcoma (GS). GS can present in the gastrointestinal tract but involvement of the appendix is uncommon. Furthermore, infiltration of the appendix by leukemic cells is also a rare manifestation of leukemia relapse. Herein, we report a 75-year-old man with AML-M2 who had been in partial remission for 1 year, and who presented with symptoms mimicking acute appendicitis as the initial manifestation of leukemia relapse. Subsequent pathological examination confirmed the diagnosis.

CASE REPORT

A 75-year-old man was admitted for evaluation of right lower quadrant abdominal pain and fever for 3 d. He had partial remission of AML-M2 for 1 year, after chemotherapy with low dose cytarabine. His past history included hypertensive cardiovascular disease with congestive heart failure, coronary artery disease, and chronic obstructive pulmonary disease. Physical examination showed rebound tenderness over the right lower quadrant. The leukocyte count was 35 × 10³/L, with 15% neutrophils, 26% lymphocytes, 1% monocytes, 2% eosinophils, 0% basophils, and 56% immature cells. Hemoglobin and platelet counts were 9.9 g/dL and 64 × 10³/µL, respectively. C-reactive protein was 7.98 mg/dL. Abdominal computed tomography showed rebound tenderness over the right lower quadrant. The leukocyte count was 35 × 10³/L, with 15% neutrophils, 26% lymphocytes, 1% monocytes, 2% eosinophils, 0% basophils, and 56% immature cells. Hemoglobin and platelet counts were 9.9 g/dL and 64 × 10³/µL, respectively. C-reactive protein was 7.98 mg/dL. Abdominal computed tomography showed thickening of the appendiceal wall and periappendicular fat stranding (Figure 1). The diagnosis of acute appendicitis was made, and appendectomy was performed immediately after admission. Grossly, the appendix was gray in color and soft in consistency. Microscopically, the sections showed transmural infiltrates of myeloblasts, which were positive for myeloperoxidase, CD43 and CD34 immunohistochemical stains (Figure 2). Hence, AML-M2 with involvement of the appendix was diagnosed. Thereafter the patient received chemotherapy with low-
acute abdomen has not been advocated because of the high rate of operative mortality in the past\textsuperscript{[10]}. However, there is some support for surgical management of appendicitis in acute leukemia as the most effective method of therapy\textsuperscript{[11,40]}. Systemic chemotherapy is necessary in this setting for additional radiation or surgery in patients with GS\textsuperscript{[13,10]}. In conclusion, we report a rare case of AML who had been in partial remission for 1 year and presented with symptoms of acute appendicitis as the initial manifestation of leukemia relapse. Although leukemic cell infiltration into the appendix is uncommon, our case highlights the importance of differential diagnosis of acute appendicitis including recognition of possible leukemic involvement. The physicians should be aware of these conditions.

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