Case Report

MUM-1 and bcl-2 Positive Primary Diffuse Large B Cell Non-Hodgkin's Lymphoma of the Colon

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Abstract

Primary diffuse large B cell lymphoma (DLBCL) presents as a nodal and extranodal disease. The most common extranodal site is the gastrointestinal tract (GI), with the stomach most frequently involved, followed by the small bowel. Primary DLBCL of the large bowel accounts for 0.2%–1.2% of all colonic tumors. We present two patients who underwent radical resections of right colonic tumors. They were diagnosed with primary colonic DLBCL following histological and immunohistochemical testing of the excised tissues, and were determined as being in stage IIE of the disease. The tumors expressed CD20 markers. Both received multi-agent chemotherapy with combined immunotherapy and remain in complete remission at 4 and 5 years.

Keywords: Chemotherapy, colon, hemicolectomy, immunohistochemistry, non-Hodgkin's lymphoma

Cite this article as: Jurisić V, Plećić M, Colović N, Čemerikić-Martinović V, Janković M, Čolović M. MUM-1 and bcl-2 Positive Primary Diffuse Large B Cell non-Hodgkin's Lymphoma of the Colon. *Arch Iran Med*. 2016; 19(4): 297 – 299.

Introduction

Primary Non-Hodgkin's lymphoma (NHL) of the colon is a rare tumor of the gastrointestinal tract (GI) that comprises 0.2%–1.2% of all colonic malignancies. Among primary colonic lymphomas diffuse large B cell lymphoma (DLBCL) is agressive, distinct and the most frequent subtype of all adult NHL localized in large bowel.[1–5] The ileocecal part of the bowel is the most frequently affected site. Due to the small number of published cases, the optimal therapy for NHL of the colon is still undetermined, particularly regarding the necessity of surgical resection, duration of chemotherapy and significance of immunotherapy. Our two cases of DLBCL with primary localisation in colon showed a successful protocol with surgery in combination with immunotherapy.

Case reports

Case 1

A 65-year-old woman presented in January 2009 with intermittent diarrhea followed by obstipation and weight loss of 20 kg over the preceding 4–5 months. Laboratory data showed hypochromic anemia. Lactate dehydrogenase level was normal. Colonoscopy detected a tumor mass narrowing obstructing the ascending colon. A barium enema identified a long stricture of the ascending colon and the right side of the transverse colon with mucosal irregularity suggestive of malignancy. Computed tomography (CT) showed a tumor mass measuring 9.5 × 8 × 8.6 cm in the lower part of right abdomen (Figure 1). The patient underwent right colectomy for suspected colonic adenocarcinoma and had an uneventful recovery. The tumor histology and immunohistochemistry revealed many large cells and diffuse cell growth in keeping with diffuse large B cell lymphoma (DLBCL) expressing the immunophenotype CD20+, CD79alfa+,CD43+/, MUM-1+,bcl-2+, cyclin D1-, CD3-, CD5-, CD10-, CD23-, with Ki-67 positivity in over 70% of the tumor cells (Figure 2). Following surgery, it was determined that the patient had stage II disease, IPI score 2. Immunochemotherapy was administered according to the R-CHOP protocol (rituximab 700 mg 1 day, cyclophosphamide 1400 mg 1 day, adriblastin 90 mg i.v. 1 day, vincristine 2 mg i.v. 1 day, prednisone 100 mg daily days 1 to 5). The patient received 8 cycles of therapy after which she achieved complete remission. Laboratory tests, biochemistry, bone marrow biopsy, and chest, abdomen, and pelvis CT scans were normalized. She remains in complete remission 4 years later.

Case 2

In February 2008 a 50-year-old woman presented with intestinal obstruction and underwent an emergency right hemicolectomy and terminal ileostomy. Histology found that the tumor tissue was composed of large, round cells with oval or intended nucleii, with an abundant partly basophilic cytoplasm. These tumor cells immunohistochemically expressed CD20+, Cd79alfa+, CD3-, CD5-, bcl-2+/-,bcl-6-, MUM +/-, CD 138+, and around 70% were Ki-67+. Following surgery, an abdominal CT scan identified a number of enlarged paracaval lymph nodes, the largest of which measured around 56 × 42 × 60 mm. Bone marrow biopsies were normal. Laboratory analysis found Hb 106 g/L, WBC 6.1–10^9/l, platelets 342 × 10^9/l, (seg 73%, eo 5%, bas 1%, lym 14%, mo 7%), SE 30 mm, and fibrinogen 6.5 g/L. Lactate dehydrogenase level was 498 U/L (normal range 220–460 U/L). The patient was therefore determined to have IPI score 1, and in stage IIE of the disease. She was also treated with 8 cycles of immunochemotherapy according to the R-CHOP protocol (rituximab, 700 mg

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Accepted for publication: 20 March 2015