Gastrointestinal Involvement in a Patient with Chronic Lymphocytic Leukemia

Çabuk et al. Chronic Lymphocytic Leukemia

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A 70-years-old man was admitted to the hospital with symptoms of fatigue and dyspnea. The total blood count showed leukocytosis with increased lymphocyte count. In a short time, white blood cells (WBC) had increased to two hundred thousand (WBC: 217.00x10⁹/L, lym: 175.00x10⁹/L, and neu: 22.30x10⁹/L) and flow cytometry revealed a phenotype that was positive for CD20, CD19, CD23 and was negative for FMC7. CD 23 was highly positive (70.09%) and there was co-expression of CD5 and 19 (68.36%). Surface membrane immunoglobulin (sIgM) levels were low (5.27%). This phenotype was typical for a diagnosis of chronic lymphocytic leukemia (CLL).

Abdominal and thorax computerized tomography (CT) of the patient revealed hepatosplenomegaly, peritoneal carcinomatosis, paraaortic and celiac lymphadenopaties and diffuse wall thickening in rectum. The patient was referred to the medical oncology department with a diagnosis of rectal cancer and peritoneal metastasis. Thorax CT showed bilateral pleural effusion and nodular lesions at bilateral lung parenchyma. In the gastroscopy, gastric mucosa was hyperemic; ulcerative lesions on bilateral sides of corpus, and multiple pearlescent lesions on post bulbar region were detected (Fig. 1). The colonoscopy showed advanced inflammation on rectum mucosa. Mucosal surface was irregular and occasionally ulcerative. The gastroscopic biopsies showed lymphocytic infiltration in the post bulbar region of duodenum, and greater curvature of the corpus and colonoscopic biopsies showed lymphocytic infiltration in the descending part of colon, and rectum. Microscopically dense mucosal and submucosal lymphocytic infiltrations were detected. The immunohistochemistry was positive for CD20, CD5, and CD23. (Fig.2). Cyclin D1 was negative and these findings indicated the infiltration of gastrointestinal system by CLL cells.

During the course of the disease the patient had renal insufficiency, neutropenia and fever. The patient was thought immunocompromised due to the disease (CLL) or possibly bone marrow suppression as a result of sepsis. Hydration and broad spectrum antibiotics were started. The patient had increased symptoms of dyspnea and hypoxia. The dyspnea and hypoxia were thought to be related with infiltrating lymphocytes in the lungs and pneumonia. Despite the treatment, the patient died as a result of respiratory failure and sepsis.

The gastrointestinal involvement is an important and rare complication of chronic lymphocytic leukemia. This complication can be due to lymphocytic infiltration or concomitantly occurring colon carcinoma (1-3). Gastrointestinal involvement generally occurs only when Richter syndrome develops, which is the transformation of CLL to diffuse large B-cell lymphoma.

The gastrointestinal manifestations might be sometimes asymptomatic in CLL patients. The gastrointestinal involvements can be in broad spectrum (4,5); esophageal varices due to portal hypertension, protein-losing enteropathy and colitis. Prompt and detailed examination with endoscopy is essential for these patients. In conclusion, gastrointestinal evaluation of patients with CLL should be done as these patients have increased risk of additional malignancy. However, endoscopy with biopsy might reveal GI involvement rather than secondary malignancy. This should be in mind and treatment should be started as soon as possible.
References


Figure 1. Gastroscopy showed multiple pearlescent lesions on post bulbar region

Figure 2. Biopsy specimens of colonic mucosa. A. Extensive lymphoid infiltration that destroyed gland structures (H&E x100). B. Diffuse mucosal infiltration of lymphocytes with dense clumped chromatin and scanty cytoplasm (H&E x400). C. Diffuse staining with CD20 (x40). D. CD5 positivity of infiltrating lymphocytes (x400)