Radiologic Findings of Hepatic Myeloma Infiltration: A Case Report

Hepatik Myeloma İnfiltrasyonunda Radyolojik Bulgular: Olgu Sunumu

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ABSTRACT

Multiple myeloma is a lymphoproliferative disorder, in which hepatic infiltration of malignant plasma cells may also be seen in later stages of the disease. Herein, we report a case of hepatic myeloma infiltration that was diagnosed by an ultrasonography guided liver biopsy in a multiple myeloma patient. The diagnosis of the hepatic infiltration is important, since it has an impact on the staging and the therapy. Imaging appearances and imaging guided biopsies have an important place in the diagnosis, and therefore in the prognosis of the disease.

Key Words: Hepatic infiltration, multiple myeloma, tru-cut biopsy, ultrasonography

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ÖZET

Multipl myeloma, hastalığın ileri dönemlerinde karaciğerde malign plazma hücre infiltrasyonunun görülebildiği lenfoproliferatif bir hastalıktır. Burada multipl myelom hastasında ultrasonografi eşliğinde yapılan karaciğer biyopsisi ile tanısı konulan hepatik myeloma infiltrasyonu olgusu sunuldu. Hepatik infiltrasyona tanı konulması evreleme ve tedavi planını etkilediği için önemlidir. Görüntüleme özellikleri ve görüntüleme eşliğinde biyopsi hastalığın prognozu nedeniyle tanıda önemli yer tutar.

Anahtar Sözcükler: Hepatik infiltrasyon; multipl myeloma; tru-cut biyopsi; ultrasonografi

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INTRODUCTION

Multiple myeloma (MM) is a lymphoproliferative disorder usually affecting the bone marrow; it is the second most common hematologic malignancy, representing 1% of all cancers and 13% of hematologic malignancies (1). Hepatic involvement may also be seen, mostly in later st ages of the malignant lymphoproliferative diseases such as multiple myeloma (1,2). Pathologic liver involvement in patients with MM has been reported in up to 45% of cases (2). Otherwise, the presence of hepatic infiltration in malignant lymphoproliferative diseases at initial staging CT and/or MRI has been reported in about 1.8% of patients with MM (1). Generally, the infiltration of liver, spleen and lymph nodes with malignant plasma cells, is associated with a more aggressive form of the disease. Therefore; it has an important influence on staging and therapy.

Our case was a late-stage multiple myeloma patient who had radiological and pathological findings of hepatic myeloma infiltration.

CASE REPORT

The patient, a-72 year old male, was admitted to the outpatient clinic with a complaint of worsening lumbalgia for many years. He was given a physical therapy from which he didn't benefit. He had been hospitalized because of these reasons for further evaluation and treatment.

Lumbar disc hernia and findings consistent with spondylodiscitis were detected in lumbar MRI. Tuberculosis, brucella and multiple myeloma routines were studied. Brucella was negative. QuantiFERON-TB, the test of tuberculosis, was positive which led the clinicians to begin the anti-tuberculosis treatment. Furthermore; IgG lambda monoclonal gammopathy was determined in the patient's serum immunefixation. In the 24-hour urine, lambda light chain was determined. Bone marrow aspiration revealed a %30 of plasma cell infiltration. Bone marrow biopsy revealed the hypercellular bone marrow material to be composed of diffuse interstitial atypical plasma cell infiltration. The findings were consistent with plasma cell myeloma.

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The patient received chemotherapy until pancytopenia was determined in the coming months. Because of the life threatening rectal bleeding that occurred later, he had been hospitalized in an intensive care unit. He had passed through recurrent infections.

About a year after the diagnosis of multiple myeloma, he had been hospitalized once more because of pneumonia. During the hospitalization, since the hepatic enzymes were determined to be elevated, an abdominal ultrasonography was planned.

US examination was performed with an Aplio SSA-770A/80 (Toshiba Medical Systems Co, Ltd, Tokyo, Japan) equipped with a 3.5-MHz abdominal transducer. Abdominal ultrasonography examination revealed multiple hypoechoic lesions occupying both lobes of the liver (Figure 1). In the liver, some lesions partly merged into each other with indistinct borders, and others with well-defined margins were distinct. Although this sonographic appearance was not specific, there was a suspicionof the involvement of MM. Then, an ultrasonography guided tru-cut liver biopsy was performed. The pathology of the biopsy was reported as lambda monotypical atypical plasma cell infiltration, consistent with the hepatic myeloma infiltration. During the hospitalization, the patient died of the cardiopulmonary arrest secondary to hepatic failure and the septic shock.

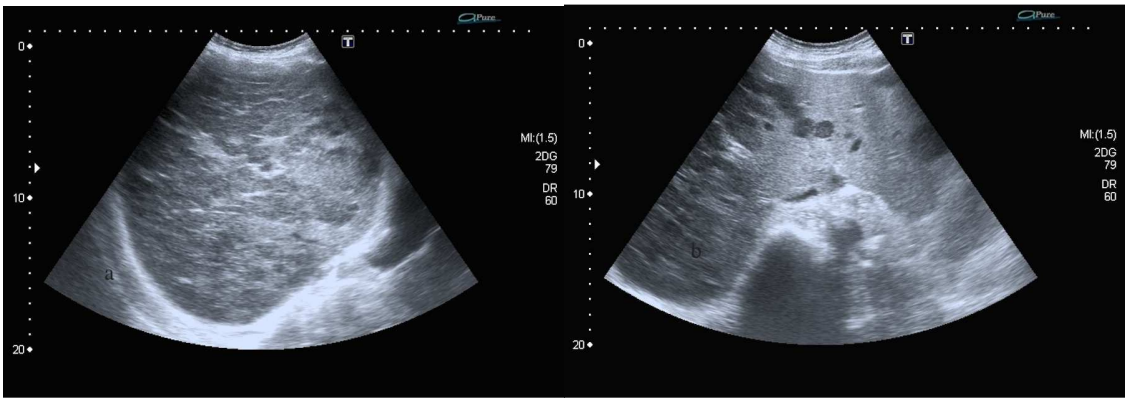

Figure 1: Hepatic myeloma infiltration. Sonogram of the liver in a patient with multiple myeloma shows countless hypoechoic lesions that partly merge into each other with indistinct margins, some hypoechoic lesions that distinct, with well-defined margins in both liver lobes.

DISCUSSION

In autopsy series of multiple myeloma, the extra-osseous involvement is most commonly seen in the kidneys, spleen, liver and lymph nodes (2,3). Pathologic involvement of liver in MM patients has been reported in up to 45% of patients (2,4). The involvement of the liver during the course of the lymphoproliferative diseases, is commonly encountered in the advanced stages of the disease (1). Since the hepatic involvement is seen in the late stages, the highest prevalance has been detected in autopsy studies (1,2). In an earlier study by Perez-Soler et al., 10 patients out of 21 (47.6%) had diffuse infiltration of the liver by plasma cells (5).

Multidetector computed tomography (CT) is the main imaging technique to evaluate lymphoproliferative disease involvement. Ultrasonography, magnetic resonance imaging (MRI) and PET-CT are the other modalities that help. According to the literature, imaging appearances of hepatic involvement do not differ among the primary or secondary forms, or among the types of lymphoproliferative diseases (1,6). The lesions are mostly distributed unequally among hepatic lobes and are variable whereas the majority of them demonstrates a target or bull's eye appearance or nonspecific hypoechoic nodular appearance on ultrasound (4,6).

In our case, 2D ultrasound findings characterized by multiple hypoechoic nodular lesions some of which partly merged with each other and pathological findings demonstrating malignant plasma cells after an ultrasound guided tru-cut biopsy led us to conclude the diagnosis of hepatic myeloma infiltration.

In conclusion, when hepatic lesions were determined in a patient with a diagnosis of multiple myeloma via imaging modalities, the hepatic infiltration of myeloma should be considered in the differential diagnosis.

Conflict of interest
No conflict of interest was declared by the authors

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