

# A rare cause of ascites: Multiple myeloma

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## ÖZET

### Nadir bir asit nedeni: Multipl myelom

65 yaşında 3 aydır multipl myelom tanısı olan erkek hasta. 3. kür KT tedavisinden önce bacaklarda ve karında şişme olması üzerine yapılan batın USG' de karaciğer normaldi fakat batında serbest sıvı vardı. Assit sıvısının sitolojik incelemesinde atipik hücre gözlenmedi fakat assit sıvısı immunofiksasyon elektroforezinde Ig G tipi monoklonal gammopati saptandı. Assit sıvısında Ig G seviyesi 1520 mg/dl, Kappa hafif zincir seviyesi 399 mg/dl saptandı. Ayrıca assit sıvı protein elektroforezinde beta bandında pik gözlemlendi. Multipl myelom ve assit için Lenalidomide (Revlimide) planlandı fakat hasta akut böbrek yetmezliği ve hipotansiyon nedeniyle öldü.

**Anahtar Kelimeler:** *Multipl MyelomAssitRevlimide*

## SUMMARY

A 65 year old male patient who have diagnosis of multiple myeloma for three months. The abdominal ultrasonography was performed upon development of swelling in the abdomen and legs prior to the third cycles of chemotherapy treatment. On ultrasonographic examination the liver was normal but there was free fluid in abdomen. In cytological examination of ascites fluid atypical plasma cell was not detected but Ig G Kappa type monoclonal gammopathy was detected in immunofixation electrophoresis of ascites fluid. Ig G was 1520 mg/dl, Kappa total light chain was 399 mg/dl in ascites fluid. Also there was a beta band peak in ascites fluid protein electrophoresis. Lenalidomide (Revlimid) treatment was planned for multiple myeloma and ascites but patient died due to hypotension and acute renal insufficiency.

**Key Words:** *Multiple MyelomaAscitesRevlimide*

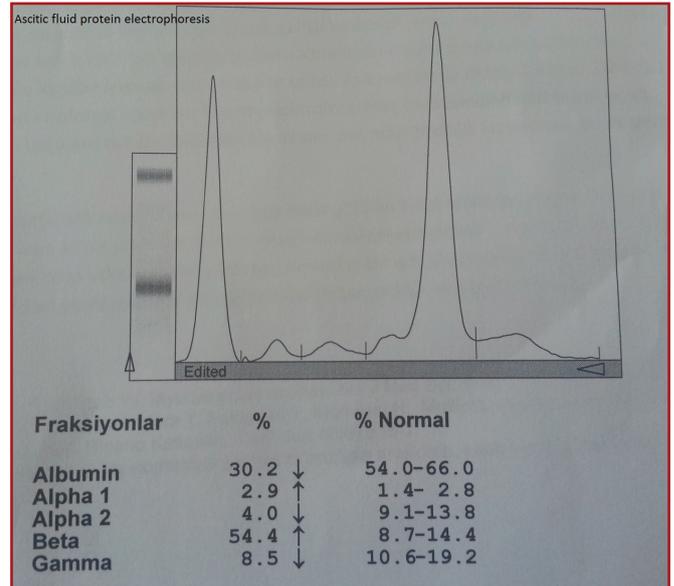
## Introduction

Ascites is described as pathologic accumulation of fluid within the peritoneal cavity. Numerous mechanism, such as portal hypertension (PHT), hypoalbuminemia, peritoneal disease and other causes are involved in the pathogenesis of ascites. The most common mechanism responsible for the development of ascites is PHT, which accounts for approximately 80% of cases. Cirrhosis is the most common cause of ascites due to PHT (1). On the other hand, malignancy-related ascites is less frequently seen with several tumors, such as ovary, breast, colon, lung and liver cancer.

Ascites in patients with multiple myeloma (MM) is very rarely encountered and can be seen at any time during the course of the disease (2). Myelomatous ascites is often associated with PHT caused by liver involvement but can develop secondary to infectious peritonitis. Less frequently, myelomatous ascites is caused by peritoneal involvement of malignant cells (3). Here we report a case of myelomatous ascites due to peritoneal involvement of MM which was reported quite few in literature to date.

## Case report

A 65 years old male patient was admitted with vertebral fractures, anemia, and renal failure seven months ago. His final diagnosis was MM upon detection of IgG Kappa type light chain gammopathy in serum and urine protein electrophoresis and also bone marrow plasma cell infiltration. Cytotoxic therapy with Bortezomib and Dexamethasone was started. Abdomi-



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nal swelling and edema of the lower extremity were developed after the second course of treatment. Abdominal distension, shifting dullness and pretibial edema were detected on physical examination. Anemia (10.7 g/dl), thrombocytopenia (105.000 mm<sup>3</sup>) and hypoalbuminemia (1.9 g/dl) were determined in laboratory assessment. Ultrasonographic examination was normal other than moderate free fluid in the abdomen. In addition, chest radiography, abdominal CT, portal venous system doppler USG and echocardiography were normal. In ascitic fluid analysis, Polymorphonuclear leukocyte (PMNL) was more than 250/ml and serum-ascites albumin gradient (SAAG) was less than 1.1. Ascitic fluid culture result and PCR test for tuberculosis were also normal. In ascitic fluid protein electrophoresis, there was a beta band peak. IgG kappa type monoclonal gammopathy was detected in immunofixation electrophoresis of ascites fluid. In ascites fluid, IgG level was 1520 mg/dl and kappa total light chain was 399 mg/dl. However, atypical plasma cell could not be detected by cytological examination of ascites fluid. As a result of these findings, patient was diagnosed with ascites due to MM. Cytotoxic monotherapy with Lenalidomide was planned but the patient died due to acute renal failure and its complications before therapy.

## Discussion

Myelomatous ascites is a rare clinical situation which can be seen during the course of the disease. The diagnosis of this complication can be made by the detection of M peak in protein electrophoresis or demonstration of atypical plasma cells in cytological examination of ascitic fluid (4). Consequently, the diagnosis of myelomatous ascites in our case was made by the presence of beta band peak on protein electrophoresis and IgG kappa type monoclonal gammopathy on immunofixation electrophoresis of ascites fluid.

The extramedullary involvement of MM is generally refractory to conventional treatment (chemotherapy and/or radiotherapy). To the best of our knowledge, there is no proven effective treatment for in this complication. High dose chemotherapy is suggested by some authors for patients with multiple myeloma if ascites develops. Keren et al. reported the disappearance of myelomatous ascites following treatment with high dose cyclophosphamide (5). Alegre et al. showed complete and long-lasting improvement after cytotoxic chemotherapy followed by autologous peripheral blood stem cell transplantation (6). Similar results were obtained by the cytotoxic chemotherapy followed by autologous bone marrow transplantation (7).

It has been reported that Lenalidomide, a new cytotoxic agent is an effective and well-established treatment of relapsed or refractory MM disease (8). For this reason, we planned to start cytotoxic monotherapy with Lenalidomide but unfortunately, the patient died due to acute renal failure and its complications. In fact, the prognosis of MM is poor and the average survival is about 1.5-2 months when complicated with ascites or pleural effusion (9).

In conclusion, the myelomatous ascites is a very rare complication and also a poor prognostic factor for MM. Currently, there is no effective treatment of this condition and new modalities of treatment need to be explored to improve outcome.

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