A Rare Case of Multiple Myeloma Presenting with Myelomatous Ascites

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Introduction

Multiple myeloma (MM) is a malignancy characterized by the proliferation of plasma cells. MM accounts for approximately 2% of all hematological malignancies with an incidence rate of 7.1 cases per 100,000. The common presentation of multiple myeloma includes, destructive bone lesions, kidney injury, anemia, and hypercalcemia. Extramedullary involvement outside of the bone marrow is frequently seen in advanced or refractory stages of MM due to plasma cell infiltration of visceral organs. Ascites is an uncommon, rare manifestation of multiple myeloma. Here we present a rare case of a patient with recurrent ascites as his presenting symptom of multiple myeloma without evidence of intra-abdominal plasmacytoma or bone involvement.

Methods

This is a non-controlled, observational case report focused on one patient diagnosed with multiple myeloma complicated by myelomatous ascites.

Case Report

A 62-year-old male with a past medical history significant for end-stage renal disease status post two renal transplants, currently on hemodialysis, insulin dependent type II diabetes, seizure disorder, hypertension, hyperlipidemia, GERD, who presented with abdominal pain, distention, early satiety, and weight loss in the setting of recurrent ascites. CT abdomen and pelvis showed evidence of large volume of abdominal and pelvic ascites. A trace right pleural effusion was also noted. The patient had two previous admissions for ascites and underwent two paracenteses with negative cytology. The patient underwent a third paracentesis with the removal of 4L of ascitic fluid, and cytology demonstrated numerous polyclonal plasma cells. Immunofixation revealed an IgA lambda monoclonal protein, and serum free kappa and lambda light chains were elevated, to 32.8 and 252, respectively. Bone marrow biopsy and flow cytometry demonstrated monocytic-lymphoid restricted plasma cells (CD38+, CD138+, CD56+, CD117-), concerning for IgA lambda light chain myeloma, although no lytic lesions were visualized on whole body CT imaging. FISH analysis revealed t(11:14), t(4:14), t(14:16), and t(14:20) mutations, indicating an aggressive ‘triple hit’ myeloma. Liver biopsy showed mild portal inflammation, mild portal fibrosis, and focal pericellular fibrosis. The patient underwent two paracenteses with negative cytology. The patient underwent a third paracentesis with the removal of 4L of ascitic fluid, and cytology demonstrated numerous polyclonal plasma cells. Immunofixation revealed an IgA lambda monoclonal protein, and serum free kappa and lambda light chains were elevated, to 32.8 and 252, respectively. Bone marrow biopsy and flow cytometry demonstrated monocytic-lymphoid restricted plasma cells (CD38+, CD138+, CD56+, CD117-), concerning for IgA lambda light chain myeloma, although no lytic lesions were visualized on whole body CT imaging. FISH analysis revealed t(11:14), t(4:14), t(14:16), and t(14:20) mutations, indicating an aggressive ‘triple hit’ myeloma. Liver biopsy showed mild portal inflammation, mild portal fibrosis, and focal pericellular fibrosis. The patient began treatment with Bortezomb, Cyclophosphamide, and Dexamethasone (CyBorD) plus Daratumumab. Patient has not significant reduction in ascites recurrence.

Discussion

Ascites is a rare extramedullary manifestation of multiple myeloma and is associated with a poor prognosis. Ascites can develop as a rare complication during the course of the disease; however, rarely occurs as a presenting symptom. Myelomatous involvement of body cavity fluid affects less than 1% of patients with multiple myeloma, with pleural effusions being most common, followed by peritoneal effusions. Secondary ascites arising from hepatic involvement, renal failure, or heart failure in myeloma patients are characterized by serous effusion. Myelomatous ascites is strongly associated with peritoneal tumor implantation, and liver involvement is often minimal or absent. In our case, there was no evidence of peritoneal tumor implantation and liver involvement was not evident on biopsy. This case is unusual due to the patient’s presenting feature of multiple myeloma being recurrent ascites in the absence of typical features of the malignancy.

Conclusions

Myelomatous ascites is a rare complication of multiple myeloma and can at times be the presenting symptom such as in this case. The presence of ascites is associated with a poor prognosis and can cause diagnostic confusion such as in this case with cytology returning as negative on two separate peritoneal fluid analyses. MM should be considered in patients presenting with recurrent ascites of unknown etiology.

References