Case Report
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IgA Myeloma, Portal Hypertension and Normal Skeletal Survey—A Triad

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Abstract

Multiple myeloma is a neoplastic plasma cell dyscrasia. Patients usually present with bone pain, anemia, hypercalcemia and renal failure. Unusual presentations include progressive bilateral carpal tunnel syndrome, polyarthritis, amyloidosis of the tongue, and involvement of pulmonary parenchyma. Early diagnosis is important for timely therapy. We present the case of a patient with clinical features of portal hypertension that ultimately proved to be multiple myeloma.

Introduction

Multiple myeloma is a neoplastic plasma cell dyscrasia (PCD) that constitutes 1% of all cancers and 10% of all hematologic cancers. It is characterized by a clinical pentad: (a) anemia; (b) a monoclonal protein in the serum or urine, or both; (c) abnormal bone radiographs and bone pain; (d) hypercalcemia; and (e) renal insufficiency or failure.[1] The number of new cases of myeloma is 6.1 per 100,000 per year and number of deaths is 3.4 per 100,000 per year. Whites are more affected than blacks, men more than women. The median age at diagnosis is 71 years. Diagnosis is by hemogram (anemia, high ESR), blood chemistry (renal failure, reversal of albumin: globulin ratio, hypercalcemia, normal ALP), skeletal survey (lytic lesions), electrophoresis (M band) and bone marrow examination (infiltration by malignant plasma cells). The M component is a hallmark of the disease. A total of 93% of patients have a monoclonal protein detected in their serum. Types include IgG (52%), IgA (20%), IgD (2%), and free light chain (16%). Less than 1% of myelomas are the IgM type. Those cases without a detectable monoclonal protein are referred to as nonsecretory myeloma.[2,3] Unusual presentations of multiple myeloma include progressive bilateral carpal tunnel syndrome, polyarthritis, amyloidosis of the tongue, and involvement of pulmonary parenchyma. We present a patient with clinical features of portal hypertension ultimately diagnosed as multiple myeloma.

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Case Report

A 56-year-old male presented to our department with chief complaints of progressive abdominal distension of three months duration. There was no history of jaundice, orthopnea, decreased urine output, periorbital puffiness, lower extremity edema or bleeding tendency. General physical examination revealed a male of average build with mild pallor, no icterus, no lymphadenopathy and no stigmata of chronic liver disease. Respiratory and cardiovascular examinations were normal. Abdominal examination revealed hepatomegaly (5cm below the right costal margin), splenomegaly (6cm below the left costal margin) and ascites. In view of anemia, hepatosplenomegaly and ascites, we suspected malignancy and liver disease for which the patient was evaluated. Initial evaluation revealed pancytopenia, hyperbilirubinemia, hypoalbuminemia and reversal of serum albumin:globulin (A:G) ratio (Figure 1). Abdominal paracentesis was performed. Ascitic fluid examination was remarkable for a serum ascitic albumin gradient (SAAG) of 2.3, consistent with portal hypertension. He underwent an abdominal ultrasonogram which suggested portal hypertension. In view of pancytopenia and reversal of the A:G ratio, we performed a bone marrow examination that revealed 66% plasma cells. Serum electrophoresis revealed an M band and urine electrophoresis was normal. IgA levels were high (8.6g/dl). Because of the elevated IgA levels and plasmacytosis, he was diagnosed with multiple myeloma (IgA). The patient underwent a liver biopsy in view of portal hypertension and ascites, which reported no evidence of necrosis, inflammation or fibrosis and was negative for Congo Red. His final diagnosis was multiple myeloma (IgA)-stage III which presented as hepatosplenomegaly and high gradient ascites attributed to portal hypertension. The patient is currently receiving bortezomib-based chemotherapy and is scheduled for follow-up.

Discussion

IgA myeloma is the second most common subtype of multiple myeloma. Patients usually present with bone pain, pathologic fractures, anemia, hypercalcemia and renal failure. Unusual presentations include progressive bilateral carpal tunnel syndrome, polyarthritis, amyloidosis of the tongue, and involvement of pulmonary parenchyma. Presentation of multiple myeloma as portal hypertension is uncommon.[4] The pathogenesis of portal hypertension in patients with multiple myeloma is largely unknown. Possible reasons may be portal vein thrombosis, increased blood in the splenic vein or amyloid involvement of the liver. Liver involvement in multiple myeloma is seen in 25%-40% of cases in retrospective studies.[5] Liver involvement can be diffuse infiltration of the liver by plasma cells, myeloid metaplasia, amyloidosis, toxic hepatitis and extra-hepatic cholestasis secondary to infiltration of the peripancreatic tissue

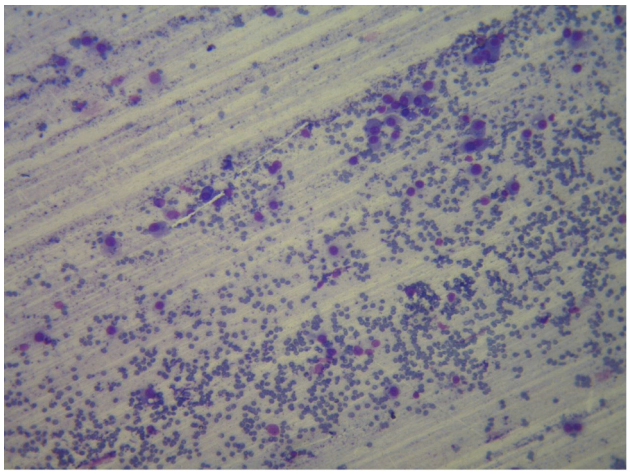

Figure 1. Bone marrow aspirate showing infiltration by plasma cells. (Low power view)

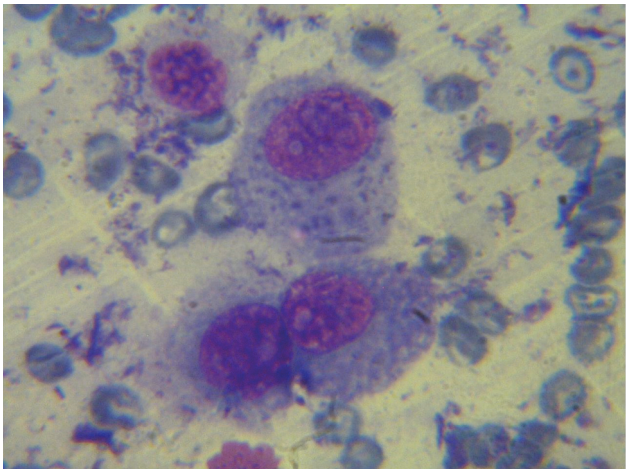

Figure 2. Bone marrow aspirate showing plasmablasts.(High power view)

Table 1. Investigations.

Hb	7.2 g/dl	**Bilirubin**	2.7 mg/dl
WB	3.34×103/µl	**ALT**	17 U/L
Neutrophils	74%	**ALP**	182 U/L
Lymphocytes	13%	**Proteins**	7.39g/dl
Platelets	65×103/µl	**Albumin**	2.9 g/dl
MCV	80fl	**Globulins**	4.9g/dl
MCH	25pg/cell	**A:G ratio**	0.48
ESR	57	**Urea**	74 mg/dl
IgG	354 mg/dl	**Creatinine**	2.7 mg/dl
IgM	15 mg/dl	**Calcium**	9.78 mg/dl
IgA	8690 mg/dl	**Endoscopy**	Normal
Beta 2 microglobulin	10 mcg/ml	**Echocardiography**	Normal
Ascitic fluid		**24 h urine protein**	100mg
TLC	60 cells	**Hepatitis serology**	Negative
Glucose	110mg/dl	**ANA**	Negative
Albumin	0.1	**Thyroid profile**	Normal
SAAG	2.3	**Non-contrast abdominal CT**	Ascites, hepatosplenomegaly
Malignant cells	Negative		

by plasma cells. Diffuse infiltration consists of sinusoidal flooding by plasma cells of varying degrees of differentiation with little or no propensity to destroy the liver parenchyma. Some of these patients may present with non-obstructive jaundice and show elevations in alkaline phosphatase. There are 10%-15% of myeloma patients who have extracellular deposition of amyloid in tissues resulting in amyloidosis. Protein deposition commonly occurs in the kidneys and heart resulting in death from cardiac or renal failure. Amyloid deposition in the liver is common but usually asymptomatic. Patients present with hepatomegaly, splenomegaly, ascites and portal hypertension. Jaundice, ascites, and liver enzyme abnormalities are ominous signs observed in 5% of reported cases. Disease progression is generally subacute.[6,7] Ascites formation is a rare complication of multiple myeloma. It is usually associated with massive liver infiltration by malignant plasma cells, leading to portal hypertension or peritoneal involvement by myeloma cells. In one study liver infiltration with myeloma cells has been shown to occur in 40% of myeloma patients, while 10% of those patients had extensive myelomatous liver infiltration and ascites. Infiltration of the peritoneum by malignant plasma cells and ascites formation carries a grave prognosis in the vast majority of cases and is resistant to chemotherapy.[8,9]

Our patient, however, had no evidence of liver involvement - either infiltration or amyloidosis. Ascitic fluid was negative for malignant cells which ruled out peritoneal involvement. Portal hypertension was the most likely cause of ascites in our patient as confirmed by the high serum ascitic albumin gradient. Another peculiar feature in our patient was a normal skeletal survey. The triad of IgA myeloma, portal hypertension and normal skeletal survey has also been previously reported, although rarely. This triad was possibly a distinct entity as it usually occurs only with the IgA subtype of myeloma. However a future study should be undertaken to confirm the same.

Conclusion

Multiple myeloma can have varied presentations. The pathogenesis of portal hypertension in patients with multiple myeloma is largely unknown. The triad of IgA myeloma, portal hypertension and normal skeletal survey is very rare. Further studies need to be carried out to confirm this association.

Conflict of Interest

No conflict of interest is declared.

References

1. Surveillance, Epidemiology and End Results Program (SEER) [Internet]. 1975-2011. Available from: seer.cancer.gov/data.
2. Monika Gupta, Mansi Kala, Sant Prakash Kataria, Padam Parmar, Gajender Singh, Sunita Singh, et al. Unconventional presentation of multiple myeloma: A series of 4 cases. *J Hematol.* 2013;2(1):42-7.
3. Molloy CB1, Peck RA, Bonny SJ, Jowitt SN, Denton J, Freemont AJ, et al. An unusual presentation of multiple myeloma: a case report. *J Med Case Rep.* 2007; 1: 84.
4. Young P, Finn BB, Pellegrini D, Bruetman JE, Shanley CM, Tolosa Vilell C, et al.[Myelomatous ascites]. *An Med Interna.* 2008;25(2):85-9.
5. Thomas FB, Clausen KP, Greenberger NJ. Liver disease in multiple myeloma. *Arch Intern Med.* 1973;132(2):195-202.
6. Mohammad Reza Mortazavizadeh, Leila Dehghan, Hamid Reza Soltani.G, Soraya Teimouri. Multiple myeloma associated with pseudo-hyperphosphatemia, massive ascites, and pleural effusion. *Journal of Medical Research and Science.* 2011;1(3):16-8.
7. Karanth NV, Vora A, Mishra B, Karanth P, Prabhash K, Pai VR, et al. Plasma cell dyscrasia presenting as ascites and omental mass. *J Clin Oncol.* 2008; 26(8):1379-81.
8. Koeffler HP, Cline MJ. Multiple myeloma presenting as ascites. *West J Med.* 1977; 127(3):248-50.
9. Lucas RU, Schneider JR, Axelrod AR. Multiple myeloma with massive ascites-Report of a case. *Harper Hosp Bull.* 1968;26:216-20,.