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Case Report

Kappa light chain myeloma: A case report

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Abstract

Light chain myeloma nephropathy is the most common form of renal involvement in plasma cell dyscrasias. It usually causes tubulointerstitial renal damage. About one in five people with multiple myeloma produce only light chains. We report a case of lambda light chain deposition disease in a 61-year-old female who presented with acute renal failure. She is currently in partial remission following treatment with bortezomib, cyclophosphamide, and steroids. We present a case with rare kappa light chain myeloma with light chain deposition in renal tubules.

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Introduction

Light chain myeloma nephropathy is the most common form of renal involvement in plasma cell dyscrasias. It usually causes tubulointerstitial renal damage. The diagnosis is made by showing the wide band structures in the tubule that cause obstruction with pathology. It should be considered in the differential diagnosis in patients with unknown cause of urea, elevated creatinine and anemia. Light chain only variant constitutes approximately 15% of patients with multiple myeloma.[1] Renal failure, bone disease, and systemic light chain AL amyloidosis appear to be more frequent in patients with light chain multiple myeloma (LCMM). LCMM has an earlier average age of onset and appears to have a poorer prognosis when compared to IgG or IgA variant.[2,3] We present a case with rare kappa light chain myeloma with light chain deposition in renal tubules.

Case Report

A 61-year-old female patient has no known chronic disease other than chronic bronchitis. She applied to an external hospital with complaints of headache, weakness and vomiting. She was referred to us due to the high urea and creatinine

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value in the laboratory tests. Hemoglobin 6.9 g/dL, creatinine 5.67 mg/dL, urea 97 mg/dL, sedimentation rate 52 mm/hour, IgG 3.14 g/L (7-16), IgA <0.28 g/L (0.7-4), an IgM 0.17 g/L (0.4-2.3). There was 10.8 g of proteinuria in 24-hour urine. Peripheral blood smear was normal. No monoclonal band was formed in serum protein and immune electrophoresis. Kappa and free kappa light chain bands were observed in urine immune electrophoresis. A bone marrow biopsy was then performed: a mild hypercellular imprint (LCMM) With atypical plasma cell infiltration (84%) was reported. In PET-CT, extensive metabolic activity increase was detected in many bone marrows. A kidney biopsy was performed to determine the cause of kidney failure. The pathology result of kidney biopsy was compatible with cast nephropathy. The patient was taken over by hematology. Chemotherapy treatment was started with cyclophosphamide + bortezomib + dexamethasone. There was a significant improvement in the clinic of the patient, who received 4 cycles of chemotherapy. Serum creatinine level significantly decreased from 6 mg/dL to 3.5 mg/dL.

Discussion

LCMM is a difficult disease to diagnose. As in our case, the majority of patients have renal failure and anemia at the time of diagnosis.[4] In patients with high urea and creatinine whose cause is unknown, in the presence of anemia, myeloma disease should be suspected, and urine immune electrophoresis and serum immune electrophoresis should be requested together with serum protein electrophoresis.[5] In our case, no significant findings were detected in peripheral blood smear, serum protein electrophoresis and serum immune electrophoresis. Bone marrow biopsy was performed in our patient as a result of the findings in urine immune electrophoresis. Subsequently, a kidney biopsy was performed to determine the cause of kidney failure. Although the importance of kidney biopsy in light chain myeloma nephropathy is discussed, its effect in determining the prognosis is great. The presence of numerous casts and diffuse tubular atrophy is associated with poor renal prognosis.[5] As in our case, the majority of patients who received cyclophosphamide + bortezomib + dexamethasone chemotherapy benefited from the treatment. Blood levels of urea and creatinine are decreased. Some of the patients who needed dialysis became independent from dialysis.[6-8]

Conflict of Interests

Authors declare that there are none.

Acknowledgment

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