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# Autoimmune hemolytic anemia in case of myeloma cast nephropathy in tertiary care hospital of Jaipur Rajasthan

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**Abstract**
Autoimmune hemolysis is rare in multiple myeloma. We describe a rare case of multiple myeloma with myeloma cast nephropathy who presented with autoimmune hemolytic anemia at initial presentation.

**Keywords:** AIHA, MM, LDH

## Introduction
Multiple myeloma is a common hematological malignancy affecting commonly the older age group. Anemia commonly occurs in a patient with multiple myeloma. However, autoimmune hemolysis is an extremely rare cause of anemia in patients with multiple myeloma. We present a patient with multiple myeloma with myeloma cast nephropathy who had autoimmune hemolytic anemia at initial presentation.

## Case Report
A 62-year-old Indian female presented in Mahatma Gandhi Medical College & Hospital Jaipur with severe fatigue, tiredness, reduced urine output,breathlessness, altered sensorium. Physical examination revealed pale conjunctiva, tongue and palms, bilateral pitting pedal edema, flapping tremors in b/l upper limbs, Systemic examination was suggestive of bilateral decreased air entry with coarse crepitations, flow murmer on auscultation. Blood work showed hemoglobin of 4.5 g/dL, hematocrit 15 %, RBC 1.22 million/µL, WBC 1,700/µL, platelet count 81,000/µL, reticulocyte count of 7.5 %. Her LDH was 632 IU/L. Total protein was 9.6g/dl and globulin level was 7.6g/dl, Urinary BJ Protein was positive. Direct Coomb's test was positive for autoantibody. Similarly, serum protein electrophoresis and immunofixation showed monoclonal IgG kappa protein 8.55 g/dL. Serum immunoglobulins level were IgG 6,070 mg/dL, IgA 11 mg/dL, IgM 39 mg/dL. Bone marrow biopsy showed a cluster of plasma cells on hematoxylin and eosin stain (Fig. 1). The plasma cells were positive for CD 138 (Fig. 2). Skeletal survey was positive for osteolytic lesions, she had diffuse osteoporosis.

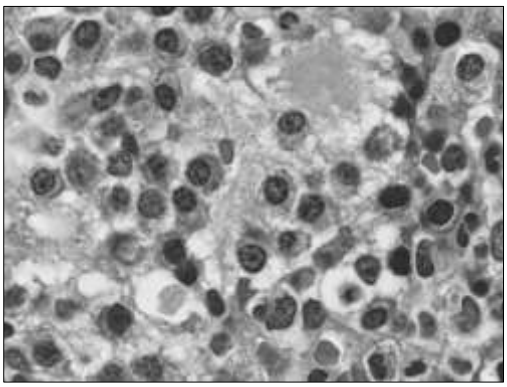

**Fig 1:** Hematoxylin and eosin stain of bone marrow biopsy showing a cluster of plasma cells

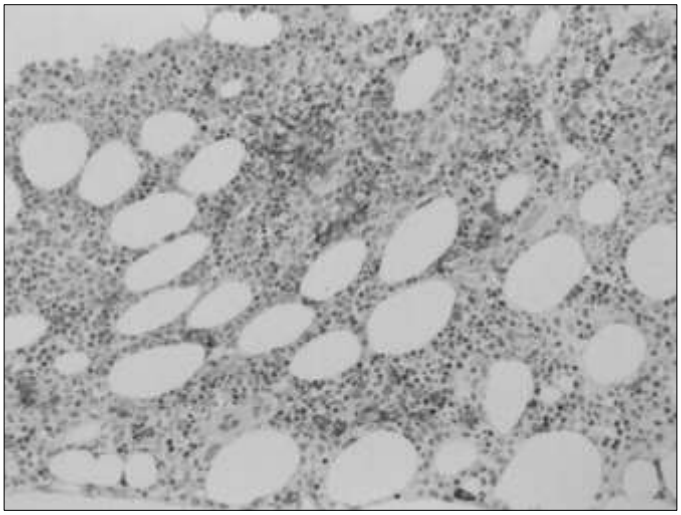

**Fig 2:** CD 138 stain positive plasma cells

Patient was treated with 4 units of packed red blood cells during hemodialysis and prednisone for her autoimmune hemolytic anemia and, with bortezomib, dexamethasone for her multiple myeloma. She showed good hematological response with improvement in hemolysis. Prednisone was discontinued in 10 weeks. She continues to receive her anti-myeloma treatment with continuation of hemodialysis.

## Discussion

Multiple myeloma is a common hematologic cancer. The most common complications of multiple myeloma include anemia, hypercalcemia, pathologic fractures, renal failure (cast nephropathy) and recurrent infections. More than two third of the patients with multiple myeloma have anemia [1]. One study suggested that the up-regulation of apoptogenic receptors by highly malignant myeloma cells results in the destruction of erythroid matrix resulting in normocytic normochromic anemia [2]. Other causes of anemia in multiple myeloma include anemia of chronic disease, relative erythropoietin deficiency (partly due to renal impairment) and myelosuppressive effects of chemoregimen.

Autoimmunity is a common manifestation in other hematological malignancies most importantly with chronic lymphocytic leukemia and non-Hodgkin lymphomas. Autoimmune hemolytic anemia is rare in multiple myeloma. On pubmed/medline search, we found four cases of multiple myeloma with autoimmune hemolytic anemia reported in English literature [3-6]. It is unclear whether AIHA is a result of multiple myeloma or it is just a coincidence. Yi Y *et al.* [6] reported IgG mediated AIHA in a patient IgA kappa multiple myeloma. AIHA was independent of multiple myeloma.

In conclusion, AIHA as presenting feature of MM with cast nephropathy is extremely rare. Although rare, autoimmunity should always be kept in mind in patient with multiple myeloma and anemia since it responds well to steroids along with the usual anti-myeloma drugs.

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