
Cast Nephropathy in Multiple Myeloma

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Case report

A 54-year-old man presented with one-week history of bilateral loin pain, reduced urine output and malaise. Complete blood picture showed hemoglobin of 7.6g/dL (normal: 11.5-17g/dL). Serum biochemistry showed hypercalcemia and markedly impaired renal function with creatinine measuring 1081 $\mu\text{mol/L}$ (normal: 80-120). Skeletal survey showed multiple osteolytic lesions, and bone marrow aspirate showed plasma cells accounting for 27% of all nucleated cells, with kappa light chain restriction. Serum protein electrophoresis showed monoclonal IgA. Twenty-four-hour urine showed light chain paraproteinuria. Renal biopsy showed cast nephropathy and absence of amyloidosis. These findings were consistent with Durie-Salmon stage 3B multiple myeloma with acute renal failure due to cast nephropathy. He was treated with biphosphonate, plasmaphoresis and VAD (vincristine, adriamycin and dexamethasone) with partial recovery of renal function.

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Figure 1. The renal biopsy showed normal glomerulus, and occasional renal tubules dilated with fragmented angular renal casts (arrowed)(Top, haematoxylin and eosin, x 100). A high-power view showing a fragmented angular cast (long arrows) in one tubule with a reactive giant cell (outlined by arrow heads)(Bottom, haematoxylin and eosin, x 800).
