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Acute kidney injury presenting as Plasma cell leukemia

Amar Ranjan, Harshita Dubey, Pranay Tanwar
Department of Lab Oncology, AIIMS, NEW DELHI, India

Objectives: Plasma cell leukemia (PCL) is a rare disease of aggressive nature. It has very poor prognosis. Only few case reports are available on direct renal involvement in PCL.

Methods: Case study

Results: A 54 year old immunocompetent male presented with insidious and progressive bleeding per rectum (hematochezia) off and for 15 days. He has history of hemorrhoid. Right **testis** was enlarged and nontender. There was no bony pain, fever, decrease urine output. Radiology showed pelvic calculi measuring 1.2 cm with mild hydronephrosis. His serum urea was 125.34mg/dl. Baseline hemogram showed Hb 5.3 gm%, TLC 10800/ cmm, platelet count 42000/ cmm. Blood film showed rouleux formation with 7% plasma cells. While presenting to us it showed Hb13 gm%, TLC 26430/ cmm, Platelet count 1.19 lakh/cmm. Blood film showed 41% plasma cells (PC), while bone marrow (BM) aspirate showed 80%PC.
Kidney function test showed BUN/Creatinine; 58/4.6, Albumin: Globulin:: 1.4:7.2 and Ca 7.6 mg/dl (corrected 10.5mg/dl); Serum M- band 6.2gm/dl, IgG - lambda L- 5864 (26.3), K- 18 mg/l (3.3-19.4), Serum Vitamin D 15.6 ng/ml & PTH 14.6 pg/ml (15-68).
FISH study from BM showed t(4,14).
Looking severity of the disease Dexamethasone 4 doses followed by Bortezomab was given. Later he presented with cough, expectoration, breathlessness, oliguria with altered sensorium.
The patient developed pneumonia (left) with acute kidney disease to progressing to sepsis. He was kept on dialysis and mechanical ventilation. Lastly he collapsed within month of presentation.

Conclusions: Kidney biopsy may disclose valuable findings in such cases. Acute kidney injury needs prompt diagnosis in PCL. Management needs plasma exchange for cast nephropathy and appropriate therapy for PCL. PCL, once suspected should be referred to tertiary care center for better management.