2. NEWLY DIAGNOSED MULTIPLE MYELOMA

MULTIPLE MYELOMA PRESENTING AS ACUTE BACK PAIN AND KIDNEY INJURY: A DIAGNOSTIC CHALLENGE

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Multiple myeloma (MM), particularly light chain disease, may present with nonspecific musculoskeletal symptoms and normal serum protein electrophoresis, leading to diagnostic delay. Recognition of red flags such as hypercalcemia, renal impairment, and lytic bone lesions is essential for early diagnosis.

Case Presentation. We report the case of a 61-year-old male, who presented to the emergency department with severe low back pain radiating to the right thigh and flank for several days, described as electric in nature and exacerbated by sitting and standing, eventually rendering him unable to walk. He also reported long-standing constipation. Two months prior, he sustained a minor lower back and right leg injury while getting off a bus and was managed conservatively with muscle relaxants and physiotherapy with minimal improvement. His medical history included asthma (on salbutamol) and hypertension (on candesartan/valsartan). On examination, he was alert, hemodynamically stable, with a positive straight leg raise test and lumbar tenderness, but no focal neurological deficits. Laboratory investigations revealed anemia (Hb 11.8 g/dL, MCV 74 fL), acute kidney injury (creatinine 178 µmol/L; baseline 72), severe hypercalcemia (4.57 mmol/L), and elevated urea (12.4 mmol/L). Liver function tests, electrolytes (except mild hypochloremia), urinalysis, and chest imaging were unremarkable. Initial lumbar imaging was normal. Renal ultrasound showed mildly increased echogenicity, consistent with AKI. Skeletal survey demonstrated multiple lytic lesions, including a large destructive lesion of the right superior pubic ramus and an old fracture of the inferior pubic ramus. Serum protein electrophoresis was within reference range; however, immunofixation electrophoresis identified isolated kappa light chain positivity without heavy chain involvement. Serum free light chain assay revealed markedly elevated kappa light chains with a significantly abnormal kappa/lambda ratio. Bone marrow biopsy showed ~60% cellular marrow with multiple plasma cell aggregates positive for CD38 and CD138 and negative for CD56, along with rouleaux formation on peripheral smear.

Conclusions. This case highlights an atypical presentation of light chain multiple myeloma with normal SPEP, emphasizing the importance of serum free light chain testing and immunofixation in patients presenting with unexplained back pain, hypercalcemia, acute kidney injury, and lytic bone lesions. Early recognition of light chain disease is critical to prevent diagnostic delay and organ damage.