

## Images in clinical medicine



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## Hypercalcaemia, acute renal failure, anemia, multiple vertebral lytic fractures, and raindrop skull: a quintet, perfect storm

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## Image in medicine

A 67-year-old female presented to the emergency department with oliguria, dyspnea, severe lower back pain, and nausea. She also reported fatigability, unintentional weight loss, and resistance to non-steroidal anti-inflammatory drugs and opioid analgesics in back pain for the previous six months. Physical examination revealed a pale, afebrile woman in acute distress with tenderness on multiple ribs and lumbar vertebrae accompanied by symptoms of compressive myelopathy. Initial laboratory assessment revealed normochromic normocytic anemia, moderate hypercalcemia, and severe

renal impairment requiring hemodialysis. Over the next few days, this patient was thoroughly evaluated for an underlying malignancy, primarily, a plasma cell malignancy. Serum and urine immunofixation revealed the presence of IgA kappa monoclonal protein, anosoparesis, and Bence-Jones proteinuria while bone marrow aspiration and biopsy showed more than 80% clonal bone marrow plasma cells. Evaluation of skeleton lesions was performed with conventional plain radiographs and supplemented by low-dose computed tomography scanning. X-ray skull views

disclosed multiple, well-defined lytic lesions of various sizes scattered throughout the skull, an emblematic appearance of the skull in multiple myeloma, also known as “raindrop skull” due to its similarity with the random pattern of black holes that heavy rain leaves when hitting and splashing onto a dry surface. Afterward, the patient received combined therapy with daratumumab, cyclophosphamide, bortezomib, dexamethasone, and bisphosphonate and was referred to a tertiary hospital due to the need for radiation.



**Figure 1:** X-ray raindrop skull view: multiple, well-defined lytic lesions of various sizes scattered throughout the skull in multiple myeloma