Rare case of sarcoidosis presenting with pancytopenia, acute renal failure and hypercalcaemia

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DESCRIPTION

A 72-year-old Caucasian woman presented to the emergency department with a 1-day history of dizziness. Review of systems was significant for progressive fatigue, exercise intolerance, intermittent chills and anorexia over the preceding few weeks. She had a medical history of hypertension, hyperlipidaemia, diabetes and chronic kidney disease (stage IV; baseline creatinine 2.30 mg/dL). Medications included cholecalciferol (2000 units by mouth daily). The patient had never smoked, did not consume alcohol and did not use illicit drugs. On physical examination, she was haemodynamically stable and had pallor and splenomegaly. Initial laboratory studies were positive for pancytopenia (white cell count 2.4 k/mm^3 ; haemoglobin 8.9 g/dL and platelets 60 k/mm^3), elevated creatinine (3.29 mg/dL) and hypercalcaemia (calcium 14 mg/dL). The patient was admitted to the general medical floor and additional laboratory tests showed elevated C reactive protein (2.6 mg/dL), low parathyroid hormone (9.5 pg/mL), high 1,25-dihydroxyvitamin D (110 pg/mL) and elevated ACE (128 U/L). Further work up was consistent with anaemia of chronic disease and no evidence of multiple myeloma. Abdominal ultrasound confirmed splenomegaly with the spleen measuring up to 23 cm, and chest CT showing an increased number of small lymph nodes in the mediastinum and both axilla. The suspicion for malignancy was high and bone marrow biopsy was performed. The latter revealed hypercellular bone marrow at 60%

Figure 2 Bone marrow biopsy showing hypercellularity and a non-necrotising granuloma.

with relatively intact trilineage haematopoiesis and a background of granulomatous inflammation; features were suggestive of sarcoidosis (figures 1 and 2). The patient was treated with intravenous hydration (normal saline) and oral glucocorticoids (prednisone 40 mg daily). Bisphosphonates were not initiated due to the adequate response to initial therapy. Her renal function returned to baseline and calcium level normalised (9.8 mg/dL) on discharge. She went home in stable condition after a 2-week hospital stay.

Figure 1 Bone marrow biopsy showing hypercellularity with a relatively intact trilineage haematopoiesis and a background of granulomatous inflammation.

Learning points

- Sarcoidosis is a systemic inflammatory disorder of unknown aetiology, characterised by the presence of non-caseating granulomas in affected organs.¹
- It can involve any organ but in more than 90% of patients it manifests with pulmonary involvement, while bone marrow involvement, acute renal failure and hypercalcaemia are rare initial presentations of the disease.^{2 3}
- A high suspicion for sarcoidosis is warranted in patients with atypical presentations, particularly when they belong to low-risk age and ethnic groups, to allow early diagnosis and prompt institution of targeted therapy to prevent long-term sequelae of this potentially fatal condition.

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