Multiple Myeloma

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INTRODUCTION

Multiple myeloma is an incurable malignancy characterized by the accumulation of malignant plasma cells primarily within the bone marrow and the frequent presence of a monoclonal protein detectable in the serum, urine, or both. Most patients produce a complete monoclonal immunoglobulin with both the heavy and light chains. IgG myeloma is the most common form (52%), followed by IgA myeloma (21%). A smaller number of patients (16%) produce only the light chain fraction (either kappa or lambda), which is readily filtered into the urine, and a small percentage of patients (7%) secrete no paraprotein, known as nonsecretory multiple myeloma. End-organ damage, most commonly hypercalcemia, renal insufficiency, anemia, or osteolytic bone metastases, is a common hallmark of multiple myeloma and is often used as a marker to determine initial therapy. This manual reviews the approach to evaluation and management of multiple myeloma in the context of clinical cases.

CLINICAL EVALUATION

CASE 1 PRESENTATION

Initial Evaluation and History

A 56-year-old white man presents to his primary care physician with a 1-week history of left hip pain. He notes that the acute onset of sharp, nonradiating left hip pain (severity, 7/10) developed after playing volleyball at a family picnic. The pain is worse with ambulation and only slightly relieved with ibuprofen 200 mg. The patient’s past medical history is significant for hypertension diagnosed approximately 5 years ago. His only medications include amlodipine and aspirin. Review of symptoms is significant for increased fatigue, but the patient is still able to continue working as a forklift operator. He has no significant tobacco or alcohol history.

On physical examination, the patient is a well-appearing man in apparent pain when he attempts to stand. Examination is unremarkable except for pale conjunctivae, poor dentition, and decreased range of motion of the left hip. Routine blood work, including a complete blood count (CBC) and a serum chemistry panel, and plain radiographs are ordered. He is encouraged to increase the dose of ibuprofen to 800 mg 3 times daily.

Laboratory Studies and Follow-up

Radiographs of the hip reveal a large lytic lesion in the left proximal femur with erosion into the cortex (Figure). CBC reveals a new anemia (hemoglobin, 8.1 g/dL).