Solitary Plasmacytoma of Tibia in a 29-Year-Old Woman

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ABSTRACT

Solitary plasmacytoma of the bone is a plasma cell tumor characterized by a single bone lesion with no evidence of myeloma elsewhere, including fewer than 5% plasma cells in the bone marrow. Although median age is about 14 years younger than that of patients with multiple myeloma, both diseases are extremely uncommon under 30 years of age. Solitary plasmacytoma of bone seem to have a prediction to occur in the axial skeleton, particularly in a vertebra and long bones are rarely affected. Herein, we report a case of solitary plasmacytoma of bone involving the tibia in a 29-year-old woman.

Key Words: Plasmacytoma, Bone, Tibia, Age distribution.

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INTRODUCTION

Solitary plasmacytoma represents a tumor consisting of monoclonal plasma cells identical to those seen in multiple myeloma and is further categorized into two groups, osseous and extramedullary primary lesions[1]. Solitary plasmacytoma of bone occur generally in the axial skeleton and its diagnosis is based on histologic confirmation with no evidence of other bone destruction on bone survey and of marrow plasmacytosis < 5%. A serum myeloma protein may be detectable on serum or urine electrophoresis, but the levels of uninvolved immunoglobulins are almost always preserved[2]. Herein, we descibe a 29-year-old woman who fullfilled the criteria for plasmacytoma of bone in an unusual site, at an unusual age.

A CASE REPORT

A 29-year-old woman was admitted to the hospital because of pain in right tibia. The patient had been well until two months earlier, when she began to have bone pain in her right tibia. Subsequently the pain that was described as deep and dull became more frequent and more intense. Physical examination revealed a 10 x 15 cm mass lesion on the right tibia. Radiographs of the tibia demonstrated an osteolytic lesion with a soft tissue mass adjacent to it (Figure 1). Biopsy performed yielding a plasma cell infiltration consistent with plas-

macytoma of bone. The complete blood count revealed a hemoglobin of 11.7 g/dL and a leukocyte count of 7.800 /µL with a normal differential. Electrolytes, incluiding calcium and the results of renal function tests were normal. The bone marrow aspiration and bilateral biopsy from the iliac bone showed no evidence of multiple myeloma. A narrow peak in the gamma region on serum protein electrophoresis suggested a monoclonal gammapathy (Figure 2). The immunoelectrophoresis of her serum identified monoclonal IgG lambda proteins (IgG: 46.10 g/L, lambda light chain: 3700 mg/dL) whereas the levels of uninvolved immunoglobulins were preserved (IgM: 2.43 g/L; IgA: 1.45 g/L) (Figure 3).

DISCUSSION

This case has two unique features. Firstly, the patient described herein is too young for a solitary plasmacytoma of bone which has a median age of 55 years at diagnosis[3]. Because of the rarity, it is hard to account for the precise incidence values but solitary plasmacytoma of bone comprises about 0.5% of all cases of myeloma[4]. Although multiple myeloma has an incidence of approximately 3.4 per 100.000 persons annually with a median age at diagnosis of 69 years, only 0.3% of patients are less than 30 years of age[4,5]. Secondly, the tibia is an unusual site for plasmacytoma of bone which arises primarily in marrow-containing bones, with a prediction for the vertebra, pelvis, rib, sternum, scapula, skull and rarely any other site of the skeletal system[6-8]. There are a few cases reporting the ti-

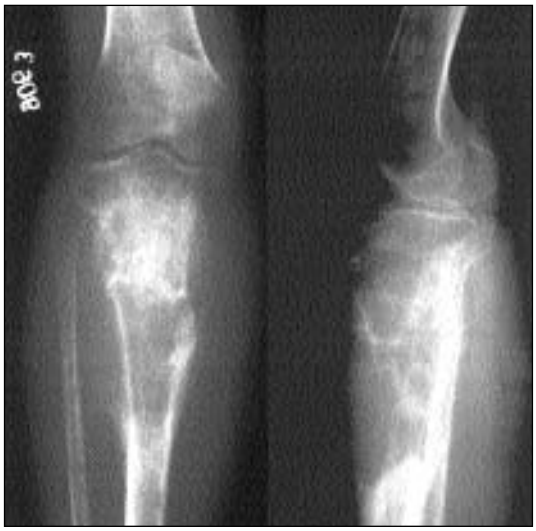

Figure 1. Roentgenogram of the tibia showed a wide lytic, destructive lesion in the proximal diaphyseal-metaphyseal region. Lesion reaches to the proximal joint surface without any disruption and distal end of the lesion has a wide transition zone. There is lobulated soft tissue component in the anterior part of the lesion. At the distal part, Codmann triangles are observed in the anterior and posterior cortex of tibia, and a solid periosteal reaction are also observed at the medial part of tibia.

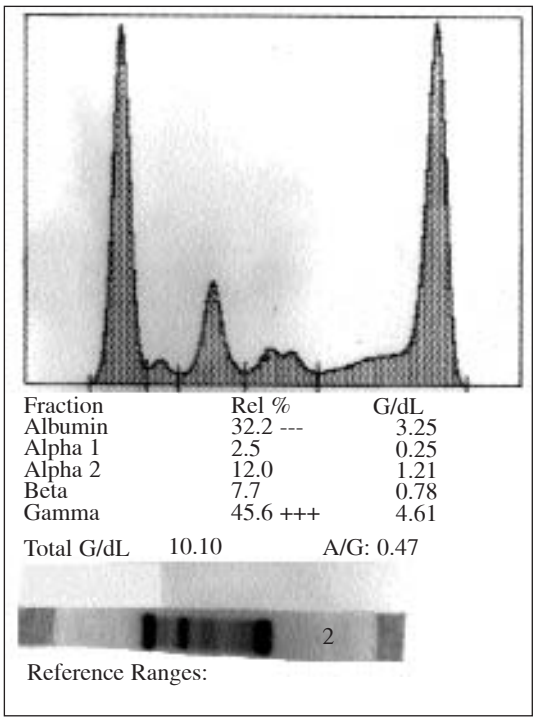

Figure 2. Serum electrophoresis revealed a monoclonal protein in the gamma region.

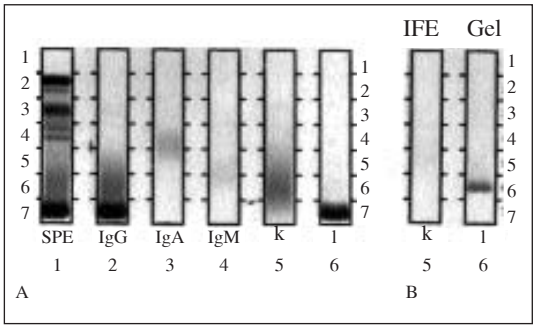

Figure 3. IgG-lambda M component demonstrated by serum immunoelectrophoresis.

bia is being affected in the literature[9-12]. Interestingly, these cases of plasmacytoma of bone occuring in the tibia, also were younger than median age of solitary plasmacytoma of bone at diagnosis. Although this connection seems to be noteworthy, a bias in reported cases, because of the atypical presentation, can not be excluded.

In conclusion, although plasmacytoma of bone and multiple myeloma are extremely uncommon in patients below 30 years, this case illustrates that the differential diagnosis in a patient less than 30 years presenting with an osteolytic lesion in tibia should include plasmacytoma of bone.

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