

Muscle Hypertrophy in a Patient with Immunoglobulin D Multiple Myeloma

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An 83-year-old woman experienced 4 months of generalized muscle pain. She had also recently undergone an operation for right carpal tunnel syndrome. On exam, she had a bodybuilder-like appearance (Fig. 1) without macroglossia. Lab results showed anemia (hemoglobin level, 7.0 g/dL), hypercalcemia (11.5 mg/dL; corrected with albumin), and hyperimmunoglobulinemia D with other globulin suppression. Serum creatinine level was 0.80 mg/dL, and creatine kinase (CK) was 126 U/L. An IgD-lambda monoclonal component was detected in serum immunofixation electrophoresis, and bone marrow biopsy revealed atypical plasma cells (69.6 %). She was subsequently diagnosed with IgD myeloma. Computed tomography revealed muscle hypertrophy and infiltrated subcutaneous fat (Fig. 2), consistent with amyloidosis.^{1,2} IgD myeloma accounts for only 1–2 % of all myeloma.³ Clinical manifestations in IgD myeloma can differ from



Fig. 1 View of the back showing hypertrophic muscles.



Fig. 2 Contrast-enhanced computed tomographic image showing hypertrophy of the erector spinae muscles (arrow) and soft tissue infiltration in subcutaneous fat (arrowhead).

non-IgD myeloma, including a higher incidence of amyloidosis (44 %) than in other myelomas (15 %).⁴ Differential diagnoses of diffuse skeletal muscle hypertrophy include hypothyroidism and a few neuromuscular disorders such as muscular dystrophies and non-dystrophic myotonic disorders.⁵ Unlike these diseases, serum CK is often normal in patients with amyloidosis.⁶ It is important to consider amyloidosis, in particular when serum CK is not elevated, for the patients whose muscles are hypertrophic without exercise.

Compliance with Ethical Standards

Conflict of Interest: The authors declare that they do not have a conflict of interest.

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