Clinical Image

Spontaneous Rupture of the Distal Biceps Tendon As a Rare Finding of Systemic Amyloidosis and Heart Failure with Preserved Ejection Fraction

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A 61-year-old man with a history of hospitalization for acute decompensated heart failure and pulmonary edema admitted to the intensive cardiac care unit with fatigue, shortness of breath, and bilateral leg edema. During his previous hospitalization period, he had a diagnostic coronary angiography for evaluation of heart failure etiology. Diagnostic coronary angiography revealed patent coronary arteries. Upper extremity musculoskeletal examination showed bunching of the biceps when the patient flexed his arm which is compatible with rupture of distal biceps tendon (Figure, Part A, Movie). Twelve-lead electrocardiogram revealed low QRS voltage and ST-T segment abnormalities (Figure, Part B). Echocardiography demonstrated normal ejection fraction with massive hypertrophy (Figure, Part C). Echocardiographic tissue Doppler imaging showed restrictive filling pattern with E/A ratio >2.0 and E/e’ ratio >15 which are consistent with grade III diastolic dysfunction (Figure, Part D-E). Rupture of biceps tendon, QRS hypovoltage and massive hypertrophy with grade III diastolic dysfunction were considered suggestive of cardiac amyloidosis. In hematologic diagnostic work-up, monoclonal globulins were detected in both serum and urine protein electrophoresis which was determined as lambda light chain with immunofixation electrophoresis. The patient diagnosed as AL amyloidosis with cardiac and musculoskeletal involvement. Rupture of biceps tendon is a infrequent clue for systemic amyloidosis with musculoskeletal involvement (1). Presence of acute heart failure with massive hypertrophy and normal ejection fraction, grade III diastolic dysfunction, QRS hypovoltage and spontaneous rupture of biceps tendon should raise clinical suspicion of systemic amyloidosis.

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REFERENCES
FIG. 1. Upper extremity musculoskeletal examination was compatible with biceps tendon rupture (Part A). 12-lead electrocardiogram revealed low QRS voltage and ST-T segment abnormalities (Part B). Echocardiographic imaging revealed massive hypertrophy (Part C) and grade III diastolic dysfunction (Part D–E).

**Movie.** Upper extremity musculoskeletal examination.