

47th ANNUAL DIAGNOSTIC SLIDE SESSION 2006

CASE 2006-5

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Clinical History: This 59-year-old man with a long history of poorly controlled insulin-dependent diabetes started hemodialysis for acute renal failure that emerged in the setting of acute tubular necrosis. The serum creatinine was 6.8 mg/dl and the BUN ranged to 139 mg/dl, suggestive of end-stage renal disease. Although some clinical improvement was seen following a below-the-knee amputation of the left leg for gangrene, resulting from complications of a pressure ulcer, progressive muscle weakness and stiffness soon developed. Two months after the onset of acute renal failure, he had an episode of generalized body swelling that resolved. However, the patient developed contractures, first in the bilateral fingers, wrists, and elbows and subsequently in the shoulders bilaterally and the joints of the lower extremities. He had signs of diabetic peripheral neuropathy but no other sensory or motor involvement was demonstrated, and no upper motor neuron findings were present. Four months after the onset of renal failure, the patient underwent biopsy of 3 different muscles. Two days prior to biopsy, the serum creatine phosphokinase value was 31 u/l. The clinical differential diagnosis included a myopathy, diabetic amyotrophy, vasculitis, and atypical calciphylaxis.

Biopsy findings: The left biceps and left quadriceps muscle biopsies showed essentially identical histological changes while the left deltoid muscle biopsy showed relatively good preservation with type 2 fiber atrophy and mild type 1 fiber atrophy.

Material submitted: Digital "virtual slide" of the hematoxylin and eosin-stained section of the left biceps muscle biopsy

Points for discussion:

1. Diagnosis
2. Differential diagnosis
3. Pathogenesis