ISCHEMIC MONOMELIC NEUROPATHY

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Ischemic monomelic neuropathy (IMN) is an uncommon and disabling complication following creation of a hemodialysis arteriovenous fistula. Ischemic injury results in multiple distal axonal mononeuropathies often involving the radial, median and ulnar nerves. Herein, we report one such case.

A 52 year old African American female with a history of type 2 diabetes mellitus and end stage renal disease on hemodialysis underwent creation of a left forearm AV fistula. The next day, she complained of swelling, pain and weakness in her left upper extremity. She was hemodynamically stable and her physical exam revealed left forearm swelling. The left hand was warm and there were no ulcers or discoloration. The radial pulse was palpable. Distal strength was impaired and weakness was most pronounced in the small muscles of the hand. Pin sensation was impaired distal to the wrist joint. IMN was suspected and an electromyography (EMG) performed revealed multiple axonal mononeuropathies of radial, ulnar and median nerves. Subsequently, the fistula was ligated. She was enrolled in a hand rehabilitation program and at a six month follow-up visit, she had partial recovery of the left hand.

In female patients with diabetes who present with pain and weakness immediately following AV fistula creation, the diagnosis of IMN should be entertained. Whereas vascular steal syndrome affects all the tissues of the involved limb, IMN affects only the nerves. Patients present within 24 hours after the procedure with pain, paresthesia and weakness. EMG/nerve conduction velocity studies confirm the diagnosis. The treatment often includes immediate ligation of the fistula and extensive rehabilitation. Early diagnosis and treatment leads to successful recovery as delay could result in permanent disability.