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CASE REPORT

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From Cane to Scooter; Four Months! Bruns-Garland Syndrome: A Case Report

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BACKGROUND
Diabetic neuropathy affects approximately 20-30 million individuals and is the most common neuropathy in the industrialized world. However, disease variants may delay prompt diagnosis and lead to significant morbidity. Of these variants, perhaps none is more debilitating than Diabetic Lumbosacral Radiculoplexus Neuropathy (DLRPN). This is a rare condition with a prevalence of 0.08%. This diagnosis is further complicated by its varied nomenclature and yet unclear pathophysiology. More familiar names for DLRPN include the Bruns-Garland Syndrome, Proximal Diabetic Neuropathy and Diabetic Amyotrophy. Whether the condition is the result of an immune or ischemic process is still unclear.

CASE PRESENTATION
A 48 year old Caucasian female with type II diabetes for 24 years, controlled with oral hypoglycemics, presented with abrupt onset right sided 10/10 burning, medial thigh pain and weakness for one week. She was normotensive and afebrile but with mild distress secondary to pain. Neurologically there were no focal deficits; however, on motor function she had decreased 4/5 strength of her right lower extremity with knee extension and hip flexion as well as marked contact allodynia. Her patellar and Achilles reflexes were 2+ equal and symmetric. There were no integumentary changes. Her hemoglobin A1C was 7.5%. She was initially diagnosed with superficial thrombophlebitis and treated conservatively with Non Steroidal Antiinflamatory drugs (NSAIDs). Approximately one month later the patient came to the emergency department after experiencing a fall secondary to worsening right lower extremity weakness and excruciating pain. Her physical exam revealed marked 2/5 weakness of right lower extremity with absent patellar and ankle reflex. The admission laboratories including CBC, CMP, ESR and ANA were all normal. An MRI of her lumbo-sacral spine revealed no radiographic pathology. Electro-diagnostic studies were attempted but postponed due to intolerance secondary to pain. She was discharged home with an oral narcotic and trycyclic antidepressants (TCA). Three months after the initial visit, the patient was referred to orthopedics which resulted in a diagnosis of Reflex Sympathetic Dystrophy. She successfully underwent a spinal nerve block under the care of a pain specialist. Her pain control was temporarily achieved. Two days later she reported losing all motor function of her right lower extremity and now was experiencing paresthesias and weakness on the previously unaffected left lower extremity. She began to utilize a cane for ambulation. Four months after the onset of the symptoms, a referral to a neurologist resulted in a presumptive diagnosis of Bruns-Garland Syndrome or DLRPN. Her electro-diagnostic studies revealed axonal degeneration neuropathy with prolonged latencies and decreased recruitment with no conduction is some nerves. Shortly after, this patient again experienced a fall secondary to severe pain and now has bilateral lower extremity weakness.

DISCUSSION
Diabetic Lumbosacral Radiculoplexus Neuropathy (DLRPN) is a rare but debilitating condition affecting predominantly type II diabetics with usually controlled glycemic indices. The presentation is often abrupt and focal with a concomitant weight loss. While pain is the initial complaint, weakness soon predominates and wheelchair assistance is often required. The median time to bilateral distribution is three months. Associated autonomic and sensory disturbances are not uncommon. Some degree of recovery is expected but can be prolonged and incomplete. Current research places an immune mechanism (i.e. microvasculitis) as the primary pathophysiology. Whether immunotherapy such is Intravenous Gammaglobulin (IVIG) early in the disease course alters prognosis is currently the topic of ongoing clinical trials. Early diagnosis is key and symptomatic treatment with physical therapy and either TCA or antiepileptic medications approved for neuropathic pain remain the mainstay of treatment.

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