Teaching NeuroImage:

MRI of diabetic lumbar plexopathy treated with local steroid injection

A. Cianfoni, MD
M. Luigetti, MD
F. Madia, MD
A. Conte, MD
G. Savino, MD
C. Colosimo, MD
P.A. Tonali, MD
M. Sabatelli, MD

Address correspondence and
reprint requests to Dr. Mario
Sabatelli, Istituto di Neurologia,
Pol. "A: Gemelli", Largo Gemelli,
8, 00168 Rome, Italy
msabatelli@rm.unicatt.it

Figure 1 MRI findings in diabetic lumbar plexopathy

MR neurography coronal images show increased caliber and T2 signal (A, B), and abnormal T1 contrast enhancement (C, D), of the right L3 nerve (short thin arrow), L4 nerve (long thin arrow), proximal portion of the femoral nerve (short thick arrow), and right obturator nerve (arrowheads).

Diabetic lumbosacral plexopathy is a well-recognized subacute, painful, asymmetric lower limb neuropathy associated with type II diabetes mellitus.¹ MRI

findings of lumbosacral plexopathies have rarely been reported.² A 60-year-old man with diabetes experienced subacute right L4 dermatome dysesthesias, as-

From the Department of Neurology (M.L., F.M., A. Conte, P.A.T., M.S.), and from Department of Bio-images and Radiological Sciences (A. Cianfoni, G.S., C.C.), Università Cattolica del Sacro Cuore-Policlinico "A Gemelli," Rome, Italy.

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Figure 2 CT-guided local steroid injection and follow-up MRI

CT-guided steroid injection (A, B) in the right L4 nerve sheet. The hyperdense contrast agent predicts the injectate spread. The follow-up MR neurography shows persistence of increased T2 signal and caliber of the right L4 nerve root (C), but marked reduction of contrast enhancement of the right lumbar plexus (D).

sociated with right lower extremity weakness graded on the Medical Research Council scale as 3/5 in the psoas, 0/5 in the quadriceps femoris, and 3/5 in the thigh adductors. Electromyography revealed evidence of widespread spontaneous activity in the same muscles. MRI disclosed abnormalities in the right L4 root and lumbar plexus (figure 1). A CT-guided steroid injection of triamcinolone acetonide 80 mg into the L4 nerve root sheet (figure 2, A and B) resulted in a reduction in the patient's symptoms. A repeat MRI performed 1 month after the injection demonstrated marked reduction of radiologic abnormalities (figure 2, C and D); the patient's dysesthesias resolved along with an improvement in muscle strength to 4/5 in the psoas and thigh adductors as well as 1/5 in the quadriceps. At last follow-up, 3 months after the injection, muscle strength was further improved (4/5 in the psoas, 2/5 in the quadriceps femoris, and 5/5 in thigh adductor muscles). Local CT-guided injection of corticosteroids may be a means of reducing the patient's symptoms while minimizing the systemic side effects of oral or IV steroid therapy. This case study's findings need to be confirmed in a randomized, double-blind, placebo-controlled trial.

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