Diabetic Neuropathy: Rare Presentation as a Painful Pseudoabdominal Mass

Suresh R. Kumar, Anand A. Kumar, Arun Grace Roy, Usha Menon

Departments of Neurology, Endocrinology, Amrita Institute of Medical Sciences, Kochi, Kerala, India

Abstract

Diabetic neuropathy has varied clinical presentations. As clinicians we should be aware of the common as well as rare manifestations of this syndrome. Diabetic truncal neuropathy presenting as a painful pseudoabdominal mass can easily mislead clinicians who are unaware of this problem. Subsequently, this can lead to unnecessary investigations and discomfort to the patient. A good blood sugar control and judicious use of drugs for neuropathic pain along with physiotherapy usually gives good relief. It is mostly a self-limiting condition.

Keywords: Diabetic truncal neuropathy, dysesthesia, pseudoabdominal mass

Introduction

Diabetic Neuropathy, like tuberculosis, is a great masquerader. A widely accepted definition of diabetic peripheral neuropathy is “the presence of symptoms and signs of peripheral nerve dysfunction in people with diabetes after exclusion of other causes” (Boulton 1998). It can be classified into several syndromes each with a distinct pattern of involvement of peripheral nerves. Patients can have multiple and overlapping presentations. Diabetes being a very common medical condition, one should be aware of the usual as well as its rare presentations.

Diabetic neuropathy can manifest in any stage of the disease though it tends to be a delayed manifestation in type 2 diabetes. It can present as an asymmetrical painful proximal neuropathy or it can be symmetrical and distal. The manifestations also can vary from an acute to a more chronic course. Autonomic neuropathy is a more serious form of nervous system involvement and requires careful monitoring. Sometimes in a single individual there can be a combination of all the above forms. Knowledge of the varied clinical presentation can prevent unnecessary investigations. Here, we report a rare case of diabetic truncal neuropathy presenting as a pseudoabdominal mass.

Case Report

A 57-year-old male electronic engineer presented with severe burning dysesthesia and pain in D4-12 distribution on the right side of his chest and abdomen. He also experienced troublesome allodynia leading to decreased sleep, excessive day time sleepiness and fatigue. The symptoms according to him started 6 months prior to his present visit after he had a chest tube insertion for drainage of pleural effusion. On the basis of pleural fluid analysis he was subsequently diagnosed to have pulmonary tuberculosis and was started on antituberculous treatment.

He had elevated blood sugar at that time with fasting blood sugar (FBS) 246 mg/dl and postprandial blood sugar (PPBS) 360 mg/dl with glycated hemoglobin (HbA1c) 9.2%. He was first diagnosed to have diabetes 3 years ago and was on irregular treatment for the same. He was initiated on insulin therapy and discharged. A week later he noticed a right abdominal bulge especially after taking a heavy meal or while trying to get up from a lying posture. This was associated with a burning pain over the right lower chest and upper abdomen. The protrusion gradually increased in size.

He was extensively investigated for his “painful abdominal mass” including a gastrointestinal scopy and ultrasonography (USG) abdomen, however no abnormality could be detected. Meanwhile his blood sugar remained uncontrolled, he stopped insulin and changed to herbal medications. On initial evaluation at our hospital, his HbA1c was 8.9%. He was initially investigated by our
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Gastroenterology department for his painful abdominal swelling. Since all results were within normal limits he was referred to neurology department for further evaluation. Meanwhile he also developed a right proximal lower limb weakness associated with wasting of thigh muscles leading to buckling at right knee joint. He had no relief of his painful abdominal sensory symptoms.

On examination there was a healed scar at the site of intercostal drain insertion in right fifth intercostal space on the anterior axillary line. All peripheral pulses were felt. Right thigh girth was 2 cm less compared to left side. He had weakness of hip adduction, knee extension, and hip extension all on the right side. The right abdominal muscles were weak with a protrusion of the abdomen mimicking a mass [Figure 1]. Abdominal reflexes were absent in all quadrants. Right knee jerk was absent and sensation to crude touch was diminished by 20% on the right side extending from D4 dermatome to right knee.

On investigations, he continued to have high blood sugars on admission. FBS 423 mg/dl and PPBS 384 mg/dl with HbA1c 8.9%. Cerebrospinal fluid (CSF) revealed normal sugar with protein 79 mg/dl and 2 cells/mm³, mononuclear. Magnetic resonance imaging (MRI) cervical, dorsal, and lumbosacral spine with contrast showed mild cervical canal stenosis at C3-C6. No evidence of spinal arachnoiditis. Nerve conduction velocity study (NCV); right femoral compound muscle action potential (CMAP) amplitudes were reduced and paraspinal electromyography studies (EMG) revealed denervation potential from thoracic and lumbar segments. Toxicological screening for herbal medication revealed no heavy metals. USG abdomen was normal.

Discussion

In view of the initial clinical findings of painful sensory symptoms with unilateral abdominal weakness and proximal right lower limb lower motor neuron weakness we considered the possibility of a multiple radiculoneuropathy. Since the patient was on antituberculous treatment (ATT), spinal arachnoiditis secondary to tuberculosis was the initial diagnosis. However, MRI spine with contrast and CSF study were normal. A paraspinal EMG showed denervation pattern from thoracic and lumbar segments. On reviewing the history he had uncontrolled sugars from the very onset of his symptoms. This prompted us to think the second possibility of a diabetic truncal neuropathy with a unilateral proximal radiculoneuropathy involving the right lower limb. His troublesome abdominal swelling, which was extensively investigated earlier, was due to an abdominal wall weakness, a finding very rarely seen in diabetic truncal neuropathy. This observation can be easily mistaken for an abdominal hernia.

It is not a true hernia as there is no protrusion of viscus through a defect in the abdominal wall on the other hand it is the weak muscle wall which bulges out. Truncal neuropathy is usually unilateral. The onset is abrupt with pain and dysesthesia being the main symptoms. Pain is in a radicular distribution and is usually accompanied by allodynia and tend to become worse at night leading to insomnia and excessive daytime sleepiness as in our case.

The pathophysiology of diabetic truncal neuropathy is still a matter of controversy, however being a painful neuropathy an ischemic cause seems to be the most favored hypothesis. Our patient had good symptomatic relief with a combination of gabapentine, tramadol, and amitryptaline.

On follow up after 3 months he was totally relieved of pain. However, his abdominal bulge persisted for which he was advised muscle strengthening exercises and abdominal binders. A combination of truncal neuropathy with lower limb proximal radiculoplexopathy is rare. The clinician should be aware of this uncommon presentation as it can prevent unnecessary investigations.

It is a self-limiting condition and usually resolves spontaneously in 2-6 months and has a good prognosis.

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