

# Impending Discectomy in A Patient with Zoster Induced Sciatica; An Instructive Case Report

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## ABSTRACT

Herpes zoster is a rare cause of non-discogenic sciatica. A combination of case rarity and name similarity was nearly leading to an inopportune surgery in a 21 years old woman. The clinical presentation was completely similar to a cauda equina syndrome associated with urinary incontinence and bilateral leg involvement. Concurrently, lumbosacral imaging of another patient with exactly similar name in the picture archiving communications system (PACS) has shown a huge L5-1 disc herniation. Careful attention to all diverse causes of sciatica and identifying details of the images could prevent improper discectomy in our patient.

## 1. Introduction

**R** Sciatica is a set of symptoms usually caused by compression or irritation of the spinal nerve roots of the sciatic nerve (Kulcu & Naderi, 2008). Lumbar disc herniation comprises 90% of the cases, while others such as lumbar spinal stenosis, piriformis syndrome, pregnancy, tumor, trauma, etc., constitute non-discogenic sciatica (Valat, Genevay, Marty, Rozenberg & Koes, 2010). Zoster has rarely been reported as a cause of sciatica in the literature (Hung, Kuo, Huang & Wang, 2010; Alloquent, Cozic, Guimard, Tanguy & Cormier, 2013; Leo, Kasper & Saxena, 2009). The disease is usually characterized by a painful rash along the limited dermatomes on one side of the body, as a result of reactivation of the varicella zoster virus which has been remained latent in the nerve cell bodies, years after the initial remission of chickenpox (Johnson & Dworkin, 2003). In this report, we have not only reported a rare case of zoster induced sciatica, but also denoted the concurrency of name similarity with another patient with lumbar disc herniation that nearly led to surgical discectomy.

## 2. Case Report

A spinal consultation was requested from hematologic department pertaining to an admitted patient who was complaining of severe low back pain. After the patient was seen, it was revealed that she was a 21 year old woman who was ill, bed bound, and suffering from severe back and abdominal pain that radiated to her lower extremities. She was a known case of mantle cell lymphoma and so far, she has been treated with five courses of chemotherapy. Pain started spontaneously from seven days ago with simultaneous involvement of both extremities but the right sided complains were clearly predominant. She was unable to walk and since three days ago, leg pain decreased but motor weakness and urinary incontinence appeared. She also complained of diffuse paresthesia throughout her right foot.

In physical examination, pain was disproportionately severe and limited mostly every movement. Abdominal examination was normal but straight leg raising was limited on the right side (<20°), strength of extensor hallucis longus and tibialis anterior muscles were reduced to poor

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(1/5) and fair (3/5) on the right and left side, respectively according to manual muscle testing. Achilles tendon reflex was also decreased to zero on right and +1 on the left, while patellar tendons' were relatively normal associated with flexor plantar reflex (negative Babinski sign). In that moment, severity of pain and disability according to visual analogue scale and Oswestry disability index was scored as 10 and 88%, respectively.

Notable blood tests included white blood cell 2300/microliter (normal 4400-11300), total lactate dehydrogenase 719 u/l (normal; 100-500), erythrocyte sedimentation rate 1<sup>st</sup> hour 14, C-reactive protein (Latex) 17 (normal<10 mg/l), and normal urinary analysis.

The severity of pain and disability was so severe that we didn't recommend any more conservative treatment. Magnetic Resonance Imaging (MRI) scan was already performed and we checked it in the Picture Archiving Communications System (PACS) to confirm the herniated lumbar disc and its exact location. MRI revealed a huge and extruded L5-S1 disc herniation mainly on the right side of the vertebral canal (Figure 1). After the patient's MRI had confirmed lumbar disc herniation, we proposed the patient surgical discectomy and therefore, pros and cons of the procedure were discussed with the patient and in spite of the underlying disease and her immunosuppressive status; she wisely preferred to be operated and signed the informed consent. The patient was scheduled for simple discectomy on the next day.



NEUR  SCIENCE

**Figure 1.** Lumbar MRI scan of another simultaneously hospitalized patient but with exactly the same name has revealed a huge L5-S1 disc herniation (Figure 1a and 1b) consistent with clinical presentation of our patient.



NEUR  SCIENCE

**Figure 2.** Two groups of small erythematous vesicular blisters on posterior aspect of the right buttock (S1 dermatome, Figure 2a) and medial surface of the knee (L3 dermatome, Figure 2b) appeared just before discectomy but one week after beginning of sciatica. Look at the diaper (due to incontinence) of the patient.

On the day of surgery and inside the operating room, grouped erythematous plaques with vesicles on the patient's right leg drew our attention. They were placed on medial aspect of right knee and posterior surface of her buttock and consistent with L3 and S1 dermatomes (Figure 2).

After consultation with our dermatologist, diagnosis of herpes zoster was confirmed, but we were not convinced and could not justify the MRI scan. Therefore, we raised the possibility of two concurrent diseases and still insisted on surgery. After reviewing the MRI scans again, we suddenly noticed another issue. There were two sets of lumbosacral MRI scans with exactly the same name inside the PACS. After applying more careful attention, based on date of birth and other patients' characteristics, we realized that the other set of imaging was related to our peculiar patient and according to her real imaging, the scan was completely normal!!.

The patient was treated with Acyclovir, Rivanol solution, and Gabapentine for seven days. After ten days, those severe complains began to decline and two weeks later she was discharged while she was able to control her void and walk independently, but she became pain free three months later.

### 3. Discussion

Sometimes, bad luck just means dealing with a rare case of disease, while more unluckiness occurs when two rarities happen simultaneously. In the case we reported, zoster induced sciatica occurred in a woman with the name identical with another patient involved with lumbar disc herniation.

Zoster occurs only in patients who have been previously contaminated with the virus. Immune system usually suppresses reactivation of the virus and prevents it from outbreaking. Literature review reveals some predisposing factors to cause shingles. These include immunosuppression status, age, sex, psychological stress, race, inherent susceptibility, physical trauma, exogenous boosting of immunity from varicella contacts, and immunotoxin exposure (Thomas & Hall, 2004). Although our patient was young, her immunodeficiency status certainly played a role in this scenario.

In incubation period between initial non-specific symptoms and its characteristic rash, shingles can be difficult to diagnosis. Characteristic rash (grouped small vesicular blister filled with a serious exudates) when appeared, usually identifies the disease. Since the most effective method of treatment is prevention, shingles vaccine is the best. In involved cases, analgesics, antivirals, and corticosteroid are usually indicated and prescribed (Galluzzi, 2007). In the case we presented, a course of treatment with Acyclovir, Gabapentine, and Rivanol solution for seven days could effectively improve most of the clinical complains.

A combination of rarity and name similarity was nearly leading to an inopportune surgery. Careful consideration of all underlying causes of sciatica (discogenic and non-discogenic) and attention to the identification details of the paraclinical results, in some cases like this can prevent improper therapeutic interventions. This event, especially in the communities where a limited number of names have a very high prevalence is more likely to happen.

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