

A Neuralgia Case Report: Acute Sciatic Type Pain

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Case Report

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Abstract

From the ancient time, people were familiar with the kind of neuralgia called Sciatic type pain. Numerous guidelines and strategies were investigated to manage this pathological state. Physiotherapy, psychotherapy and Pharmacotherapy with anti-convulsants, tricyclic antidepressants, steroidal and non-steroidal anti-inflammatory drugs, opioid analgesics and even surgery were used to reduce the pain. However, treatment for this kind of neuropathic pain is not definite because according to the literature, even epidural glucocorticoids injection provides only short-term pain relief and patients with psychological distress have poor outcomes even after surgery. This is probably because sciatic type pain originated from an elaborate interaction of edematous inflammatory mediators, immune reaction and pressure-related elements which are associated with or amplified by several kinds of environmental and inherent factors such as genetic, age, gender, physical activity, body mass and foremost body weight and mental stress.

Keywords: Neuralgia; Pain; Sciatica; Pharmacotherapy; Treatment

Introduction

Low back pain (LBP) and Sciatica (with severe symptoms) and prevalence approximately up to 40% has been considered as a common human health problem [1,2]. This topic demonstrates an exciting and fundamental point that the back and related leg sciatic type pain originated from the inflammation and then mechanically stretched or compressed sciatic nerve [3]. It culminates in pain as the main primary symptom [4]. In this pathologic condition, patient's main concern is pain

and related disabilities which could become worse and more complicated with Disc disease just like disc herniation (one or more lumbar intervertebral discs) which can create a serious pressure on the nerve root that does not improve with usual physiotherapy and analgesics [5-9].

There is a significant positive correlation between the severity of Disc disease and leg pain in this kind of neuralgia [10]. Patients who had more intensive pain and reduction in straight leg raising, finally are required to do

disk surgery, although there are no clinical observations which prove the exact relationship of disc with the nerve and pain [11,12]. Common Pharmacological intervention of sciatic type pain, include anti-seizer medications (gabapentin, pregabalin), amitriptyline and other selective norepinephrine reuptake inhibitors, non-steroidal anti-inflammatory drugs (NSAIDs) and opioid analgesics [13]. Epidural steroid injection is considered as an effective treatment for at least acute phase of sciatica but it is not clear that the effectiveness of this treatment is due to a direct effect or the systemic uptake of drug from the vascular epidural space. High dose of intramuscular dexamethasone were shown to have beneficial effect in patients with pain associated with herniated lumbar intervertebral discs [14,15].

Case Presentation

A 33-year-old female (87 kg weight and 172 cm height) has been diagnosed by history and physical examinations

as a symptomatic sciatica with back and leg continuous pain and muscle weakness in outpatient presenting within nine weeks of her complaints. She was treated with passive bed rest treatment and physiotherapy but the mobility of the back did not improve with no relief of pain at all (poor outcome).

She had stressful lifestyle in the past and sometimes with low back pain but her sciatic type pain (low back pain and more severe leg pain) began suddenly and made her disabled to move normally and do her daily activities. She felt no improvement and her depressed mood required an emergence to reduce the pain.

Medication Therapy

The following table shows the medication therapy prescribed for this patient.

	Parenteral medications (intramuscular injection)	Oral and topical medications day 1- day 12
Day 1	Amp. Diazepam 10mg/2ml Amp. Voltaren® (diclofenac) 75mg/3ml Amp. Neurobion® (B1, B6, B12)	Cap. Celecoxib, 100 mg, q12h Tab. Baclofen, 10 mg, q12h
Day 2	Amp. Methocarbamol 1g/10ml Amp. Depomedrol® (methyl prednisolone acetate) 40mg/ml	Tab. Diazepam, 2mg, HS Cap. Gabapentin, 100mg, HS
Day 6	Amp Diazepam 10mg/2ml Amp Piroxicam 20mg/1ml Amp Neurobion® (B1,B6,B12)	Tab. Multi daily® (multivitamin and minerals) daily
Day 7	Amp Methocarbamol 1g/10ml Amp. Depomedrol® (methyl prednisolone acetate) 40mg/ml	Topical R.Gel® (Camphor, methyl salicylate, Eugenol, Menthol, Arnica, Rosemary and etc.), q12h

Table 1: The medication therapy prescribed for this patient.

Generally, according to the patient's condition and the degree of improvement, parenteral medications of days 6 and 7 could be repeated sequentially in days 13 and 14 and also in days 20 and 21 combined with oral and topical medications but in the case studied it was not necessary.

Interventions and Care Plan

Continuation of Physiotherapy was not a critical and vital treatment but in our case, it was continued. A low calorie but nutritive diet was administrated for her. In addition, she was advised to be more active as possible. She was trained to keep a few hours of bed rest at home. Of course it should have been in the fetal position with voluntary contraction of the external anal sphincter repeatedly which would be a simple and very effective self-physiotherapy, this action may be done irregularly.

Not in the early stage of treatment but on the day of 5, she could feel some lumbar cracking sounds that was a golden sign and promising evidence of herniated disc healing. It was noteworthy that she was educated to work on herself to control stress and think positive about everything (psychotherapy) [11].

Outcomes

Our outcome was based on patient's self-report. After passing approximately 14 days of starting treatment, our patient had no complaint about back or its related leg pain, tenderness and muscle weakness. She could back to her work and normal life with a normal body position while moving (not twisted and deformed shape of body on standing, sitting or walking). These outcomes were followed up to ten weeks after discontinuing of the pharmacotherapy regimen [11].

Discussion

It is obvious that we are interested in non-invasive or even non-epidural injection treatments for sciatic type pain, due to the short effectiveness of these ways on patient's pain-reduction, pain-related disability and quality of life [5,16,17]. For surgical-treated sciatica, this short period of patient's improvement is only three months following surgery and it sounds like a failure [18].

Our observations made us to believe that a proper pharmacotherapy along with modification of patient's life style (weight control and a balanced rest-activity program) can improve pain and pain-related disability of sciatica without any serious and risky intervention. Although most of the studies confirm that the bed-rest is less effective than staying active for this kind of neuralgia (4), we agree with Wiesel et al. who reported a significant improvement of patient by bed-rest. However we recommend that the rest state should be in fetal position with aforementioned self-physiotherapy (voluntary contraction of the external anal sphincter) [19].

Our proposed pharmacotherapy regimen in this study may be resembled to a cocktail. A combination therapy which includes steroidal (Depomedrol®) and non-steroidal anti-inflammatory drugs (Voltaren®, p+iroxicam and celecoxib) with analgesic effect, muscle relaxant (methocarbamol and baclofen) with different mechanism of action as a synergist is useful in spasm improvement [20].

Diazepam administration (as a sedative and muscle relaxant) along with herbal anti-inflammatory and analgesic essences (R-Gel®), vitamins and minerals (Multi daily® and Neurobion®) can improve patient's physical and mental health. Particularly, B complex vitamins (B₁, B₆ and B₁₂) play basic roles in maintenance of proper nervous system structure and function. Previous studies suggested that the B complex vitamins related to promoting nerve repair, both in acceleration of nerve tissue regeneration and recovery of nerve function by several mechanisms [21-23].

As mentioned, our suggested pharmacotherapy regimen can be changed according to the patient's condition. In patients with LBP, administration of both celecoxib and baclofen would be effective and enough. In patients with severe sciatica, replacement of baclofen with tizanidine and co-administration of pregabalin would be very effective. In some of these patients with additional Disc disease (like disc dehydration), herbal nutraceuticals (such as Piascledine® as an anti-

inflammatory with trophic effect in the connective tissue) and also Aspirin® (with low dose) were very effective. Here, Aspirin® is not used as an anti-inflammatory agent but as a blood thinner and it's not strange because in some cases, hematoma and vascular compression can cause sciatic type pain [24,25].

The role of psychological distress in the incidence of sciatic pain has been clarified for many years. In our patient, sciatica was occurred when she went under some mental pressure. Increasing the mental distress results in worsening neuralgia. When psychological distress was relieved, Sciatica was alleviated. These results are in accordance with previous relationship shown between mental distress and low back pain [26].

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