

Traumatic Sciatic Nerve Injury and Effectiveness of Spinal Cord Stimulation

Letter to Editor

We would like to highlight sciatic nerve injury related to intramuscular injection. Sciatic nerve injury has been recognized for many years. Intramuscular injection is common cause of sciatic nerve injury. Kline et al. reported that injection is the most common cause of sciatic nerve injury at the buttock level in their study [1]. The most of the patients with sciatic nerve injury have an immediate, but some patients have delayed onset of symptoms. This difference is related to injection site, if it is closer to the nerve or not. Intraneural injection seems to cause an immediate onset of symptoms [2]. Sciatic nerve damage can range from minimal to severe. Depending on damage level sciatic nerve injury can present minor transient pain without neurological sequelae or severe sensory disturbance and motor loss with poor recovery [3]. Postulated mechanisms of injury includes ischemia, needle injury, neuritis, circumferential constriction around nerve fibre by scar tissue, direct nerve fibre damage by neurotoxic agents injected [4].

We had 2 patients with sciatic nerve injury following intramuscular injection. Patients had been injected analgesic intramuscularly to the left buttock region. They were admitted to our clinic with pain, paresthesia and burning sensation along the sciatic distribution and motor weakness at the left leg and also had a drop foot with loss of dorsiflexion of left foot. Patients' electromyography was analysed on left lower extremity, there was nearly complete and complete axonal denervation on common peroneal and posterior tibial division of sciatic nerve respectively. VAS values were recorded 10 and 9 respectively. After the examination sacral 2-3-4 nerve block on left side was performed with fluoroscopy. Dexamethasone and lidocaine were used for block. Eker et al. performed the block to five patients with sciatic nerve injury following intramuscular injection without fluoroscopy. They observed significant reduction in pain [5]. But we didn't see any difference on visual analog scale (VAS) values. Anticonvulsant, antidepressant and analgesic agents were added to treatment. Despite the invasive procedure and medical treatments, pain persisted. Then it was decided to perform spinal cord stimulation (SCS) as an alternative treatment.

SCS was applied between T8-T10 levels. Prior the procedure VAS values were recorded as 10 and 9. They were recorded 3 and 1, after performing SCS trial respectively. There were many clinical studies, reviews and case reports about sciatic nerve injury due to intramuscular injection. Most of them are about the management, surgical and conservative therapies, results of sciatic injection injury. When we checked out the literature, we couldn't find any case report like this. Our cases may be first applied SCS for sciatic neuropathy following intramuscular injection. In this case report we present 2 cases who had neuropathic pain due to

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intramuscular injection which is resistant to invasive and medical therapies. We observed that the SCS treatment was effective to relieve pain due to sciatic neuropathy. We did not observe any side effects and infection associated with SCS procedure. SCS should be considered as an alternative treatment method that can be used safely for sciatic neuropathy which has immediate response.

| | Patient1 | Patient 2 |
|----------------------|------------------------------------|-----------------------------|
| Age | 54 | 60 |
| Gender | M | M |
| Duration on symptoms | 8 months | 4 months |
| VAS before SCS | 10 | 9 |
| VAS after SCS | 1 | 3 |
| EMG | Nearly complete axonal denervation | Complete axonal denervation |

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