

A Challenging Case of Spinal Cord Stimulator Pain from Herpes Zoster (Shingles)

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Introduction:

This is a medically challenging case presentation of a de-identified patient who presented to the VA pain clinic. This is a 49 year old gentlemen who presented with new onset pain over the battery implant from his spinal cord stimulator that was done 12/14/15.

Case Report:

This is a 49 year old veteran who presented to the chronic pain clinic for evaluation of his spinal cord stimulator that was placed 12/15/15.

The spinal cord stimulator has provided the patient with excellent relief from his chronic back pain since initial placement. Patient reports that while at work on 10/12/16 he noticed a new onset "twinge" type pain focally over the site of the spinal cord stimulator battery site. Patient reports that the pain resolved after 1-2 hours, but resumed the following day and has since not resolved. Patient reported initially noticing a tender erythematous rash around the battery that he reports resolved when he removed his clothing to allow the area "to dry out". The pain is localized to the area of the battery implant initially.

The patient initially contacted his spinal cord stimulator representative who instructed him to follow the algorithm for management included with his spinal cord stimulator kit. Additionally he contacted the local Emergency department who instructed him to be seen by the surgeon for evaluation of the implant.

The patient then followed up with the neurosurgeons the following week 10/14/16.

The patient at this time was noted to have tenderness to palpation over the battery and pain still localized to the site of the battery. The old incision site was noted to be well healed with no signs of erythema, drainage or skin lesions. The patient was also noted on exam to have no new deficits, weakness, or numbness. He was afebrile and denied any recent illnesses.

At this time a CT scan and blood work was order to rule out concern for infection vs lead site issue resulting in thoracic radiculopathy. Both of which were unremarkable. Patient then contacted the VA pain clinic on 10/17/16 stating that he was still experiencing pain over the battery and it was extending into his flank region. He also noted new onset of redness and rash along the region of pain, which he was able to photograph and send to the pain clinic.

Patient was then brought back into pain clinic where it was noted patient had erythematous tender rash along a dermatomal distribution overlying the spinal cord stimulator battery implant extending along the flank. Patient was questioned about his chicken pox exposure and ultimately diagnosed with shingles. Patient was started on appropriate therapy with ultimate resolution of symptoms following treatment.



Figure (Left): Photo of Herpes Zoster rash submitted by patient

Discussion:

The patients who suffer from neuropathic pain, failed back surgery, multiple sclerosis, complex regional pain syndrome I and II, etc can all potentially benefit from the placement of a spinal cord stimulator implant, with decreased pain, improved limb mobility and better quality of life.

Known risk of the procedure include infection, bleeding, spinal fluid leakage, nerve damage, paralysis, movement/malfunction of lead implant.

Infection:

- A large multicenter retrospective study conducted in 2017 by Bendel, et.al. showed of the 2737 spinal cord stimulator implants 2.45% were complicated by infection.
- Wound pain and incisional erythema was the most common presenting signs. Lab studies were performed in almost all of these patients and imaging in less than half.
- The most common site of infection was the IPG pocket

Herpes Zoster Shingles

- Caused by reactivation of a primary varicella-zoster virus infection due to a decline in virus specific cell mediated immunity
- Diagnosis is usually clinical, rarely requiring testing
- Typical presentation consists of dermatomal pain followed by rash. 70-80% of people present with initial dermatomal skin pain and development of rash 2 to 3 days later. However, some patients have presented with pain for up to one week prior to development of skin rash.

In conclusion this case resulted in unnecessary laboratory work up and radiation exposure due to concern of infection and/or lead migration due to a case of herpes zoster shingles outbreak with delayed presentation of classic physical exam findings of dermatomal distributed vesicular rash.



Figure (Bottom): Classic Dermatomal Distribution of herpes zoster rash

References:

- 1) Spinal Cord Stimulator Related Infections: Findings from a Multicenter Retrospective Analysis of 2737 Implants. Bendel MA, O'Brien T, Hoelzer BC, et al. Neuromodulation. 2017 Aug;20(6):553-557. doi: 10.1111/ner.12636. Epub 2017 Jul 20.
- 2) Herpes Zoster in older adults. Schmader K. Clin Infect Dis. 2001 May 15;32(10):1481-6. Epub 2001 Apr 17.
- 3) Recommendations for the Management of Herpes Zoster. Dworkin RH, Johnson RW, Breur J, et al. Clin Infect Dis. 2007 Jan;44 Suppl 1:S1-26.

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