

Successful Protocol for Decreasing Spinal Cord Stimulator Infections

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Introduction

Spinal cord stimulation (SCS) is an accepted and efficacious method to control chronic pain(1). Low back pain is the second most common cause of disability in US adults (2). Postoperative infections resulting in explantation followed by new implantation is costly. Average infections rates are at 2-8 % (3). We devised a strategy to minimize postoperative infection and present our outcomes.

Methods

84 consecutive SCS patients were operated by the same surgeon between 2012-2016. All patients were treated as outpatients. 65 patients were operated at a government-owned and operated county hospital, 19 at a private, for-profit community hospital.

All patients were treated with the protocol below and assessed at 6 weeks post-op for any signs or symptoms of infection.

Spinal Cord Stimulator Leads



Paddle implants and percutaneous leads

Results

No infections at either the paddle implant sites or the pulse generator implant sites were observed in 84 consecutive patients. Furthermore, if prior percutaneously placed hardware had to be removed, no infections were observed at these explantation sites either.

The Protocol:

1. Patients back to be prepped in 3 steps: 1. Soap and warm water 2. Betadine 3. ChloraPrep
2. Preoperative Ancef (Vancomycin if allergic to Penicillin)
3. All implanted hardware was exposed to Vancomycin powder
4. Wound edges were exposed to Vancomycin powder at closure
5. Superficial wound closure with Dermabond
6. Only personnel scrubbed during case is operating surgeon and scrub tech - no assistant surgeon
7. Patient placed on oral Keflex and Bactrim post-op x 7 days (Clindamycin if allergic to Penicillin)

Conclusions

The initial outcomes of this protocol look favorable in the prevention of postoperative infections in SCS patients compared to published data. Larger numbers of patients are necessary to add power to these conclusions.

References

1. Lamer TJ, Deer TR, Hayek SM. Advanced Innovations for Pain. Mayo Clin Proc. 2016 Feb; 91(2): 246-58
2. Centers for Disease Control and Prevention. JAMA 2001; 285(12):1571-72
3. Engle MP, Vinh BP, Harun N, Koyyalagunta D. Infectious complications related to intrathecal delivery systems and spinal cord stimulator system implantations at a comprehensive cancer pain center. Pain Physician. 2013 May-Jun; 16(3): 251-7

Learning Objectives

By the conclusion of this session, participants should be able to:

1. Be familiar with SCS as a solution for chronic pain.
2. Describe the risks associated with SCS paddle implants.
3. Identify a reasonable protocol to decrease postoperative infections.