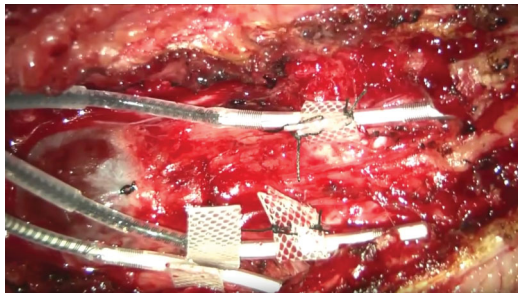
Implantation of Sacral Nerve Stimulator Without Rhizotomy for Neurogenic Bladder in Patient With Spinal Cord Injury: 2-Dimensional Operative Video



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There are approximately 12 000 new individuals with spinal cord injury (SCI) each year, and close to 200 000 individuals live with a SCI-related disability in the United States. The majority of patients with SCI have bladder dysfunction as a result of their injury, with over 75% unable to void volitionally following their injury. In patients with traumatic SCI, intermittent catheterization is commonly recommended, but a lack of adherence to clean intermittent catheterization (CIC) has been observed, with up to 50% discontinuing CIC within 5 yr of injury. The Finetech Brindley Bladder System (FBBS) is an implantable sacral nerve stimulator for improving bladder function in patients with SCI, avoiding the need for CIC. The FDA-approved implantation (Humanitarian Device Exemption H980008) of the FBBS is combined with a posterior rhizotomy to reduce reflex contraction of the bladder, improving continence. However, the posterior rhizotomy is irreversible and has unwanted effects; therefore, the current FDA-approved implantation is being studied without rhizotomy as part of a clinical trial (Investigational Device Exemption G150201) (ClinicalTrials.gov Identifier: NCT02978638). In this video, we present a case of a 66-yr-old female who presented 40-yr status post-T12 SCI, resulting in complete paraplegia and neurogenic bladder not satisfactorily controlled with CIC. We demonstrate the operative steps to complete the implantation of the device without rhizotomy in the first patient enrolled as part of the clinical trial Electrical Stimulation for Continence After SCI (NCT02978638). Appropriate IRB and patient consent were obtained.

KEY WORDS: Continence, Finetech-Brindley Bladder Control System, Functional electronic stimulation micturition, NCT02978638, Nerve-sparing surgery, Neurogenic bladder, Neurogenic bowel, Sacral laminectomy, Sacral nerve stimulator, Radio-frequency-powered motor neurop

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