

Chronic Rectal Pain Relief with bilateral Dorsal Root Ganglion (DRG) SCS after failed Ganglion Impar blocks

Bestin Kuriakose, DO; Samuel Brown, DO

Introduction:

- Acute postoperative pain is followed by persistent pain in 10-50% of individuals after common operations, further leading to chronic pain in 2-10% of these patients, creating a largely unrecognized clinical problem [1]. Rectal pain is referred to being any pain or discomfort in the anus, rectum, or lower portions of the gastrointestinal tract. Pain syndromes of the rectal area are well described but poorly understood with the etiology of the various focal pain syndromes being unknown [2]. The unknown etiology can lead to poor diagnosis and treatment outcomes in patients with chronic rectal pain and generally causes psychological disorders such as emotional disorders, depression and anxiety [3].

Case Diagnosis:

- 78 year-old male with history of colorectal CA s/p ileostomy placement who developed chronic rectal pain after undergoing the procedure. Patient described the pain as being constant with a combination of aching, burning and "feelings of wetness" which was made worse with prolonged sitting and standing.

Case Description:

- After being diagnosed with colorectal cancer, patient underwent an ileostomy. Afterwards, the patient underwent a flap procedure to close the rectum and started to develop pain in the rectal region. The pain got worse over a two year span. At its worst, the pain was 8/10. Patient tried multiple oral medications such as gabapentin, lyrica, and nucynta which provided minimal relief. Patient underwent ganglion impar blocks twice, roughly a month apart from each other and had 0% relief. Subsequently, patient had bilateral DRG SCS trial at the S2 level with greater than 50% relief. Patient underwent bilateral S2 DRG SCS implant eight months after the first failed ganglion impar block. Pain score was reduced to 2/10 and had notable improvement in ADL's and the ability to sleep comfortably.

Imaging

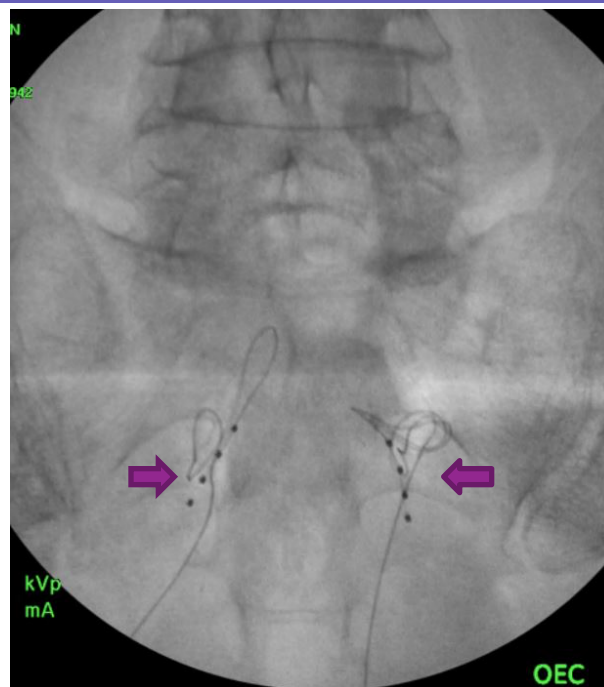


Figure 1: Fluoroscopic AP view of b/l DRG SCS implant

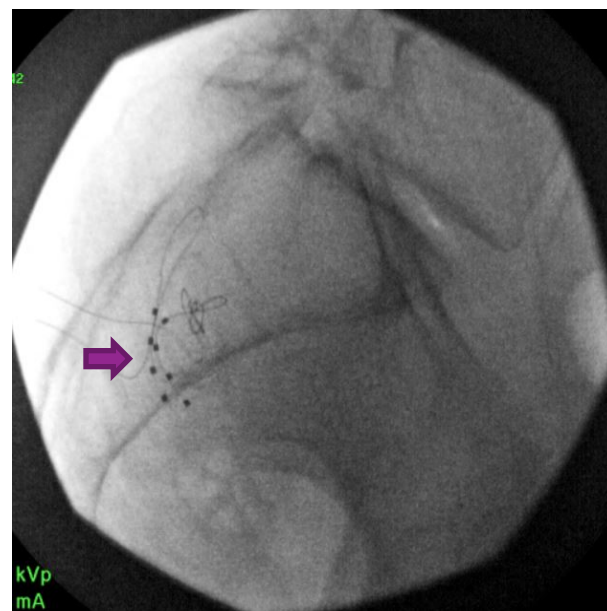


Figure 2: Fluoroscopic Lateral view of DRG SCS implant

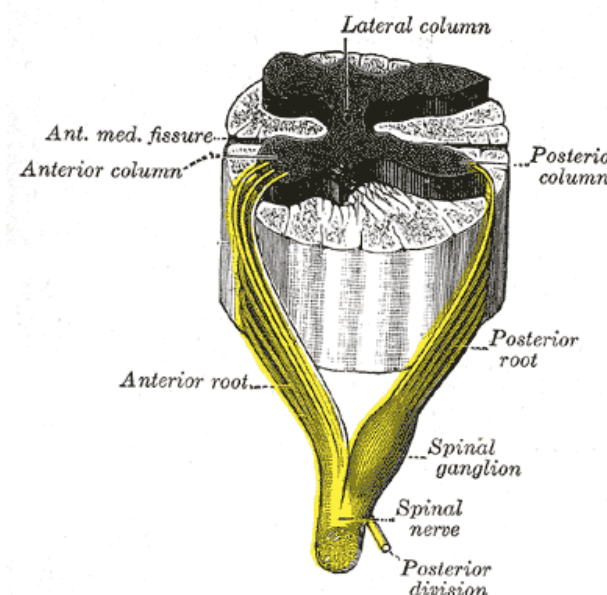


Figure 3: Spinal nerve with its ventral and dorsal roots. The spinal ganglion (DRG) contains the cell bodies of sensory neurons

Discussion:

- The aim of this case report was to describe the successful use of bilateral S2 DRG stimulation to relieve chronic rectal pain. The patient failed to have improvement from ganglion impar blocks which typically is a well-studied technique that reduces pain arising from perineal visceral structures. The ganglion impar is an unpaired ganglion located at the level of the sacroccygeal junction in the front of the coccyx and consists of the sympathetic chains on both sides [4]. The patient likely had 0% relief from the blocks likely due to advanced scar tissue or other altered anatomy due to previous multiple surgeries. The DRG is located in the lateral epidural space within the spinal foramen and contains the cell bodies of the primary sensory neurons, making it an important part of nociceptive and neuropathic pain states [5]. The proposed mechanism is to stabilize and decrease DRG hyperexcitability through implantation of leads adjacent to the targeted level. Conventional spinal cord stimulation can result in sub-optimal effectiveness for treating different chronic pain etiologies hence in the last decade, the DRG has become a focus for electrical stimulation with the potential advantage of better target control [6]. Previous studies have show that DRG can effectively treat discrete areas of pain, such as the groin and foot, which are typically more difficult to treat with traditional SCS without causing discomfort in non-painful regions [6].

Conclusion:

- Dorsal root ganglion (DRG) stimulation continues to emerge as valuable treatment option for chronic pain. It has not been commonly used in the context of treating rectal pain where patients have failed other common interventional modalities such as ganglion impar blocks.

References:

- Kehlet H, Jensen TS, Woolf CJ. Persistent postsurgical pain: risk factors and prevention. *Lancet*. 2006 May 13;367(9522):1618-25. doi: 10.1016/S0140-6736(06)68700-X. PMID: 16698416.
- Wesselmann, Ursula; Burnett, Arthur Lb; Heinberg, Leslie Jc The urogenital and rectal pain syndromes, *Pain*: December 1997 - Volume 73 - Issue 3 - p 269-294 doi: 10.1016/S0304-3959(97)00076-6
- Rao SS, Bharucha AE, Chiarioni G, Felt-Bersma R, Knowles C, Malcolm A, Wald A. Anorectal disorders. *Gastroenterology*. 2016;150(e1434):1430-1442.
- Plancarte R, Amescua C, Patt RB, Allende S. Presacral blockade of the ganglion impar (ganglion of Walther) [abstract]. *Anesthesiology*. 1990;73(3A):A751
- Deer TR, Grigsby E, Weiner RL, Wilcosky B, Kramer JM. A prospective study of dorsal root ganglion stimulation for the relief of chronic pain. *Neuromodulation*. 2013 Jan-Feb;16(1):67-71; discussion 71-2. doi: 10.1111/ner.12013. Epub 2012 Dec 14. PMID: 23240657.
- Huygen FJPM, Kallewaard JW, Nijhuis H, et al. Effectiveness and Safety of Dorsal Root Ganglion Stimulation for the Treatment of Chronic Pain: A Pooled Analysis. *Neuromodulation*. 2020;23(2):213-221. doi:10.1111/ner.13074

