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Peripheral Nerve Stimulation of Iliohypogastric and Ilioinguinal Nerves

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Introduction

Chronic pelvic and lower abdominal pain can be a severely debilitating condition that affects between 7% to 24% of the general population (4). The anterior rami of L1 and T12 give contributions to the ilioinguinal and iliohypogastric nerves which provide sensory innervation to the lower abdomen and pubic regions (3). Entrapment or damage of these nerves can occur due to a variety of mechanisms, usually including lower abdominal surgeries, blunt trauma, mesh placement, and restrictive clothing (3).

Common treatment options have included medications (2), nerve blocks (1), and in rare cases, surgical resection of the involved nerve (1), although these modalities generally provide transient relief. Here, we report a case of post-surgical iliohypogastric/ilioinguinal neuralgia successfully treated with percutaneous peripheral nerve stimulation.

Case Description

A 47 year old morbidly obese female presented to the pain clinic with chronic left sided lower abdominal and flank pain about 7 months after undergoing Roux-en-Y gastric bypass surgery. The pain was described as a 6 out of 10, and was constant and stabbing. Movement exacerbated the pain. Examination revealed tenderness to palpation at the left lower quadrant, with no guarding, or signs of peritonitis. A CT abdomen and pelvis showed post-operative changes related to the surgical procedure, but no other abnormalities.

Methods

Previously attempted treatments included neuropathic pain medications, as well as two iliohypogastric nerve blocks (anesthetic, followed by steroid) which elicited significant, but transient, pain reduction, and were both diagnostic and therapeutic. The patient subsequently underwent percutaneous peripheral nerve stimulation lead implantation remote from the iliohypogastric and ilioinguinal nerves to provide coverage of the painful region. The leads are intended to be implanted for up to 60 days of PNS before removal.

Results

The procedure resulted in no complications. After the first week of stimulation, patient had complete resolution of pain, with a score of 0 out of 10. At the patient’s 60 day follow up, the pain score remained 0 out of 10, and the leads were successfully removed. Pain relief remains several months later.

Discussion and Conclusion

Chronic pelvic and abdominal pain can be challenging conditions to treat. When first line options of treatment have been exhausted, it can be helpful to try additional options. In this case, peripheral nerve stimulation was used after positive results were elicited from iliohypogastric nerve block. This resulted in complete resolution of the patient’s chronic abdominal pain, and may potentially induce more effective pain relief than conventional methods. For this reason, we believe peripheral nerve stimulation should be considered as a modality for relief of iliohypogastric/ilioinguinal neuralgia and to address central sensitization as seen in chronic pain.

References