

## EDITORIAL

## Current Status of Sacral Neuromodulation as a Treatment for Anal Incontinence

Anal incontinence is the inability to delay defecation, thereby preventing voluntary control of rectal emptying. It is important to underscore that the term "anal incontinence" is more precise than "fecal incontinence," as the latter excludes gas incontinence and only addresses the loss of feces. This condition, which significantly impacts quality of life, has an incidence ranging from 8-21%, with substantial underreporting. A multitude of factors have been associated with its etiology, including obstetric, traumatic, surgical, nerve injury, spinal cord injury, mental disorders, and alterations in the consistency of stool.

If the patient continues to experience symptoms after initial treatments, such as an astringent diet, fluid restriction, loperamide, amitriptyline, biofeedback, or pelvic floor kinesiology sessions, a range of treatment options becomes available, including: a) Sphincteroplasty; b) Alternative treatments with anal bulking agents or radiofrequency; c) Placement of devices to prevent involuntary rectal emptying (e.g., magnetic artificial anal sphincter, vaginal bowel system, anal insert device, and anal plug); d) Retrograde enemas with industry-manufactured devices; e) Antegrade enemas by percutaneous cecostomy; f) Electrical stimulation of the sacral roots or posterior tibial nerve; g) Administration of stem cells or platelet-rich plasma; and h) Ostomy.

The objective of this editorial is not to provide an exhaustive review of the most recent developments in each treatment, but rather to offer a comprehensive reflection on the current state of anal incontinence management through sacral neuromodulation.

It is essential to acknowledge the heterogeneity observed in the classification of severity and the evaluation of outcomes associated with incontinence therapy. Comparing studies is challenging due to the use of varying classifications and definitions of success by authors, which complicates the interpretation of results. A treatment is often deemed successful if it results in more than 50% improvement, although this measure may not fully reflect the clinical significance of residual symptoms experienced by patients.

Although there is no gold standard for treating anal incontinence, sacral neuromodulation should be mentioned, as it is likely to become one, given the favorable results obtained worldwide. This therapy has more advantages than disadvantages and occupies a central place in the treatment of these patients. Its short-, medium-, and long-term effectiveness approaches 88%.<sup>1-4</sup> Thanks to the development of new devices (wires and generators) compatible with magnetic resonance imaging, it now has fewer contraindications.

In our personal experience, we have implanted sacral neuromodulators in over 40 patients, with very favorable results. In many cases, patients achieved perfect continence, even those with urinary incontinence. We also implanted neurostimulators in patients with less common causes than obstetric trauma, such as spinal cord injury, imperforate anus, low anterior resection syndrome (LARS),<sup>5-7</sup> and multiple sclerosis. These conditions usually predict lower treatment success. Still, we observed significant improvement, with almost perfect and even complete continence in some cases. There has been an increase in the number of indications for this technique, particularly for patients with LARS, who are showing very favorable results.

The efficacy of the treatment does not depend solely on the implanted device; it is also essential to ensure that it is appropriate for the patient. Furthermore, correct surgical technique is paramount. The quadripolar electrode must be positioned with the utmost precision to achieve direct contact with the S3 sacral nerve along its entire length. This skill is acquired through experience, repeated implantation,

and professional training with international experts from Spain, the United States, Colombia, Puerto Rico, Brazil, and Strasbourg in France (IRCAD France). We recommend that professionals with limited experience seek guidance or assistance from a specialist in sacral neuromodulation for the initial implantation of this device, as proper placement is crucial for successful treatment outcomes.

Undoubtedly, the main limiting factor is the cost, whose economic impact is progressively more significant in our country. While sacral neuromodulation is an attractive therapy with results that excite those who practice it, we disagree with some colleagues who prescribe it to any patient, regardless of the cause or severity, including cases of gas incontinence.

Several authors have demonstrated the effectiveness of sacral neuromodulation in patients with previously unrepaired muscular defects, achieving outcomes comparable to those who have undergone sphincter reconstruction. This is another point to consider, since, given the difficulties in obtaining device approval due to its high cost in our country, its implementation in patients with unrepaired sphincter division is unlikely. In Argentina, neuromodulation is often not a viable option due to the country's healthcare and social security systems, which typically mandate that all therapeutic alternatives be explored before coverage is authorized.

For all the above mentioned reasons, we believe that sacral neuromodulation is probably the best treatment we can offer our patients. However, although neuromodulation is here to stay, sphincteroplasty has not disappeared, at least in Argentina. Each case must be carefully evaluated, and it is important to avoid generalizations, as not all treatments are suitable for everyone.

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