
Re: Chronic Pudendal Neuromodulation: Expanding Available Treatment Options for Refractory Urologic Symptoms
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Expert’s summary:
Sacral nerve stimulation (SNS) is a routine treatment today that is utilized in a variety of lower urinary tract (LUT) dysfunctions. This group of authors tested a different approach, placing a tined lead at the pudendal nerve via the ischiorectal approach. Correct electrode positioning was checked by electrophysiologic recording of anal sphincter responses. They treated 84 patients suffering from bladder pain syndrome/interstitial cystitis (n = 42), other pelvic pain (n = 2), urgency/frequency or urge incontinence (n = 26), and nonobstructive urinary retention (n = 13), and 1 subject had urinary hesitancy and fecal urgency/incontinence. An elaborate set of pre-and post-treatment symptom data was collected. Sixty of 84 subjects presented >50% improvement in a subacute test, and 55 of them continued chronic pudendal nerve stimulation (CPNS) by means of an implanted stimulator. Complications were few. There was a highly significant improvement in leading symptoms over 12 mo. This modality seems to be a good alternative in complex problems refractory to simpler solutions.

Expert’s comments:
Dysfunctions of the LUT have many and diverging causes, like inflammation, functional change due to anatomic abnormalities, impaired innervations, and abnormal central processing of afferent impulses. How can appropriate treatments be selected for this variety of disorders in a way that is effective and reasonably simple?

Functional external electrical stimulation was used, sometimes with very good success, in overactive bladder several decades ago, but technical development to make treatments less uncomfortable has been limited. Later, SNS of the third sacral nerve (S 3) using implanted devices became popular. Quite a number of procedures have been on trial. Are all electrical stimulation techniques alike? In fact, there are quite important differences among the various applications. The basic principle is that the stimulus artificially evokes nervous reflexes. Consequently, the site of stimulation is one determining factor for the effect. A number of bladder inhibitory reflex mechanisms prevent involuntary and inappropriate bladder contractions from occurring in specific situations; these reflexes have specific sites of excitation like the clitoris and the penis (reflex is activated during coitus), the anus (activated during defecation), and the lower extremities (activated during walking and jumping). They can be triggered by electrical stimulation of the peripheral sites, provided that optimal stimulation parameters are used [1]. It is quite conceivable that stimulation at these sites (and likewise direct pudendal nerve stimulation) may yield more powerful bladder inhibition than S 3 root stimulation, possibly involving counteracting or less powerful effects, because it includes other sets of afferents than the pudendals. Thus, it is of little surprise that CPNS, as demonstrated in the present paper, appears to be more efficacious than S 3 stimulation in certain LUT dysfunctions. It remains to be determined, though, which modality should be selected to best control a specific condition. This group of researchers seems appropriate to continue to explore this important issue.

The idea of direct pudendal nerve stimulation to treat LUT symptoms is not quite new. Ohlsson et al [2] used it as a more efficacious alternative in cases resistant to surface stimulation. Spinelli et al [3] introduced the technically sophisticated CPNS procedure. We are back to our roots when exploring alternatives to the sacral roots.

Conflicts of interest: The author has nothing to disclose.

References

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