



Retrospective Review of Pudendal Neuralgia Treated With Pulsed Radiofrequency Ablations



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INTRODUCTION

- **Pudendal neuralgia (PN)**, a debilitating pain condition primarily localized to the genital and rectal areas, affects **1 in 100,000** people. [1]
- Cases reported in the literature are often initially **misdiagnosed** given this syndrome’s complex symptomatology. [2]
- Common treatment modalities include behavioral modifications, physical therapy, pharmacological agents, and botulinum toxin A injections. However, if these treatments fail, pudendal nerve injection can be an effective option. [3]
- When pudendal nerve injections are effective but only provide temporary relief, **pulsed radiofrequency ablation (PRF)** of the pudendal nerve is a potential treatment that could provide **longer lasting relief**. Through increasingly understood mechanisms, PRF neurolysis has been shown to treat chronic pain conditions such as trigeminal neuralgia, chronic low back pain, postherpetic neuralgia, and complex regional pain syndrome to name a few. [4] We hope to further advance the application of PRF to patients with PN and its efficacy after pudendal nerve blockade.

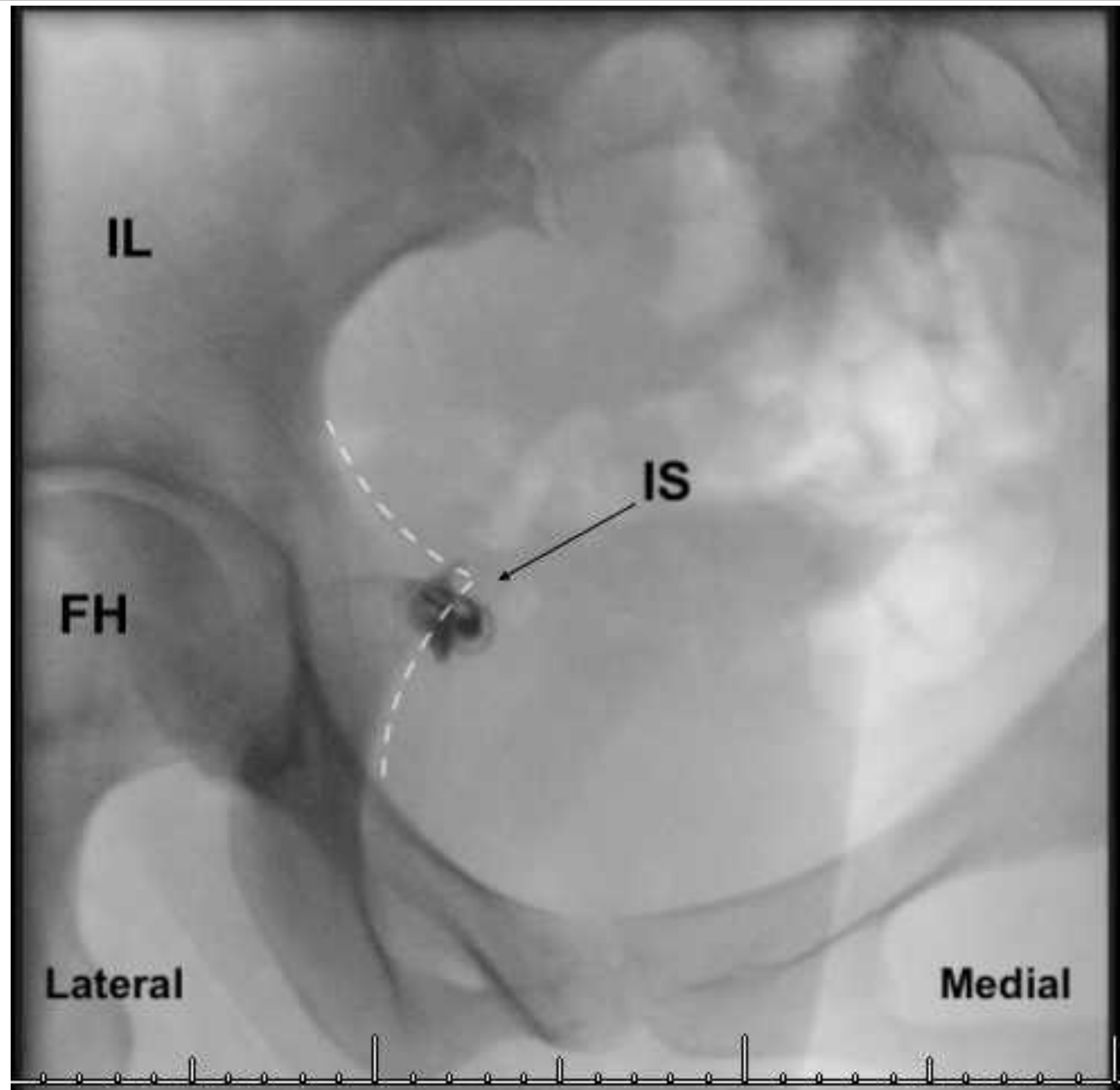
MATERIALS AND METHODS

This is an IRB-approved five-year retrospective review of patients who received **significant pain relief** lasting <2 weeks from fluoroscopy-guided transgluteal **pudendal nerve block** and **then underwent PRF** of the pudendal nerve. Position of PRF cannula was confirmed with fluoroscopy (Figure 1).

TABLE 1. Summary of patients who underwent pudendal PRF after pudendal block

Age (years)	Gender	BMI (kg/m ²)	Pain Context	Comorbidities	Prior treatments	Pain Reduction after first PRF	Duration of pain relief after first PRF	Comments
55	Male	29.6	worsened by sitting	history of gynecologic or urologic surgery	pelvic floor physical therapy	80%	49 days	
39	Female	31.1	worsened by sitting	history of gynecologic or urologic surgery, anxiety, depression	medications	25%	unable to assess due to concurrent source of pain i.e. urinary tract infection	noted improved vaginal atrophy
51	Female	23.7	none	history of anxiety	pelvic floor physical therapy	100% pain relief on left side pain and 30% on right side	unable to assess due to lost to follow up	
43	Female	23.8	worsened by sitting, woken at night by pain	history of gynecologic or urologic surgery, anxiety, depression, traumatic birth	pelvic floor physical therapy	75%	129 days	
57	Female	22.5	none	history of anxiety, depression	medications	70%	30 days	led to decreased dose of anticonvulsant used for neuropathic pain
24	Female	20.6	woken up at night by pain and objective sensory loss	history of inflammatory bowel disease	pelvic floor physical therapy and medications	100%	4 months of pain relief on left side, 87 days of pain relief on right side	
65	Female	20.8	worsened by sitting	history of gynecologic or urologic surgery	pelvic floor physical therapy, medications, procedures/surgeries	0%	none	
62	Male	25.8	worsened by sitting	history of anxiety, depression	pelvic floor physical therapy, medications, procedures/surgeries, acupuncture	0%	none	temporary pain relief similar to previous blocks, but no prolonged pain relief

FIGURE 1. Fluoroscopic image of transgluteal approach to pudendal PRF.



Radiofrequency cannula positioned near the ischial spine tip in the ipsilateral oblique fluoroscopic view on left side. Contrast administered at site to ensure cannula not in a vessel. FH: femoral head. IS: ischial spine. IL: ilium.

RESULTS

Eight patients had fewer than two weeks of pain relief with pudendal nerve block and went on to PRF, which was the criteria for enrollment (Table 1). Out of those that underwent PRF, four had **>75% of pain relief** that lasted for **an average of 80 days**. Two had at least 25% of pain relief for an average of at least 30 days. Two had no relief. Six out of the eight patients were **female**. **All** patients had pain that was not amenable to prior treatments such as pharmacotherapy and pelvic floor physical therapy.

DISCUSSION

PRF uses radio waves to destroy abnormal or dysfunctional tissue with increasing utility in treating chronic pain. [5] Multiple hypotheses exist. However, it is thought that PRF produces **prolonged analgesia** by **inhibiting excitatory C-fibers**. [4] Analysis of this retrospective review suggests that PRF of the pudendal nerve with the use of fluoroscopy could become a more commonplace treatment of PN. Advantages of PRF include long-lasting pain relief, creation of precise and accurate lesions, and safeguarding against ablating unintended targets prior to lesioning due to the ability to stimulate nervous system elements. [6] Although rare, complications of PRF include thermal burns, bleeding, infection, and inadvertent nerve damage. [7] This review exemplifies, in conjunction with previous studies, that transgluteal PRF for PN to be an effective, minimally invasive option after the failure of conservative management. [8] **Most of the patients in our review experienced pain control for longer durations previously obtained from nerve blockade**. Additional studies are needed to determine the exact mechanisms of PRF and its utility in an increasing number of chronic pain conditions.

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