Endoscopic Management of Piriformis Syndrome Provides Favorable Outcomes: A Case Series with a Comprehensive Diagnostic and Treatment Protocol and Minimum 2-Year Follow-Up

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Disclosures

I (and/or my co-authors) have something to disclose.

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Background

Piriformis syndrome (PS) is a rare, but often underdiagnosed, condition characterized by the entrapment of the sciatic nerve in the deep gluteal space, outside the spinal column. Modern endoscopic release of the piriformis tendon and exploration of the sciatic nerve is emerging as the gold standard of treatment for recalcitrant cases.

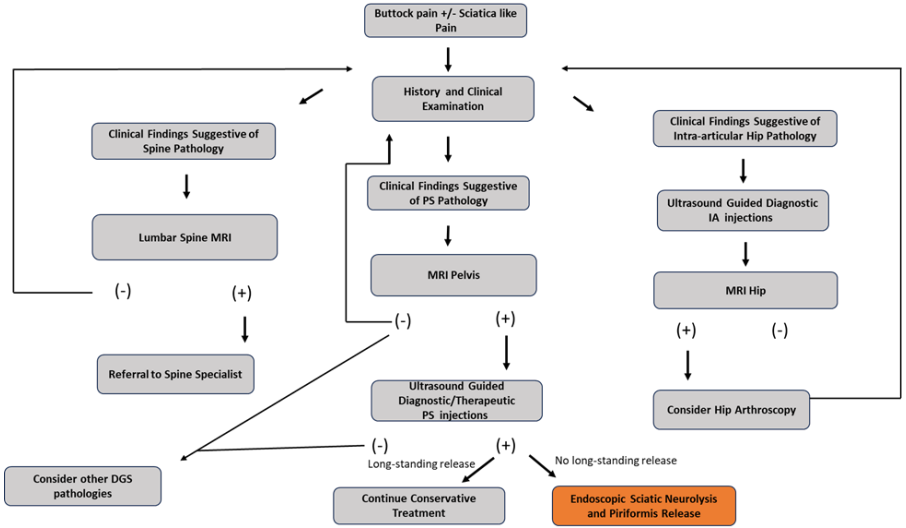
Figure 1. Ultrasound image of piriformis muscle.

Purpose

This study aims to evaluate the outcomes of endoscopic sciatic neurolysis and piriformis release as treatment for piriformis syndrome (PS) with a minimum 2-year follow-up. The secondary aim is to present a comprehensive approach to enhance diagnostic accuracy.

Methods

- Data was retrospectively reviewed for all patients who underwent endoscopic piriformis release and sciatic neurolysis as treatment for PS between September 2010 and June 2021.
- Patients were included in the study if they had complete preoperative and minimum 2-year patient-reported outcomes.
- Patients were considered for an endoscopic piriformis release and sciatic neurolysis based on the following criteria: patient history, symptoms suggestive of sciatic nerve entrapment on provocative examination, and radiographic/MRI analyses.



Surgical Approach

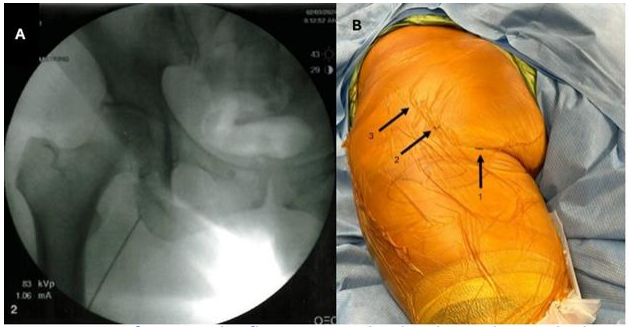


Figure 3. A: Left Leg, under fluoroscopy, the distal portal is marked at the ischial tubercle. B: Clinical Picture showing patient positioning and used portals. (1) Distal Portal, (2) Proximal Portal, (3) Accessory Portal.

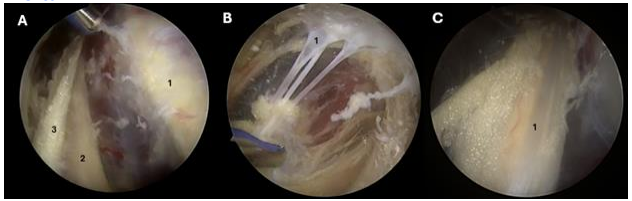


Figure 4. Left Leg, intraoperative Findings. A (1) Hamstring conjoint tendon, (2) Sciatic Nerve, (3) Adhesions surrounding the Sciatic Nerve. B: (1) Adhesions and fibrotic bands. C: (1) Sciatic Nerve after neurolysis.

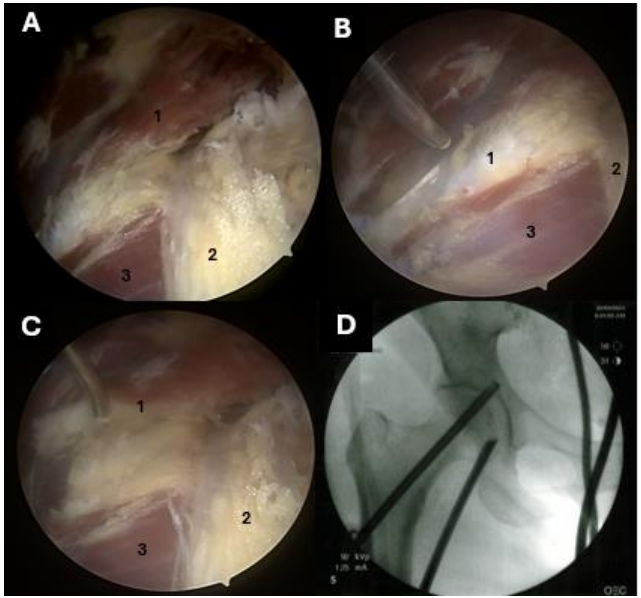


Figure 5. Left Leg endoscopic release of the piriformis tendon: A-B Pre-Tenotomy C: Post Tenotomy of the Piriformis Tendon. D: Fluoroscopic localization of piriformis tenotomy.
* (1) Piriformis Muscle and Tendon, (2) Sciatic Nerve, (3) Quadratus Femoris Muscle.

Results

A total of 18 patients were included in the study. The cohort consisted of 13 (72.22%) females and 5 (27.78%) males.

The average age was 43.60 ± 9.1 years, and the average BMI was 25.70 ±5.6 kg/m^2 with an average follow-up time was 93.1 ± 38.2 months.

Table 2: Patient Reported Outcomes for the Study Group (n = 18)

Outcome measure		Value
mHHS		
	Pre-operative	56.5 ± 14.8
	Latest	82.2 ± 38.2
	p-value	**<0.001**
	Δ	25.6 ± 18.2
NAHS		
	Pre-operative	58.5 ± 18.1
	Latest	81.9 ± 14.3
	p-value	**<0.001**
	Δ	23.4 ± 18.9
HOS-SSS		
	Pre-operative	45.5 ± 27.9
	Latest	66.8 ± 22.5
	p-value	**0.019**
	Δ	21.2 ± 34.7
VAS for pain		
	Pre-operative	5.8 ± 1.6
	Latest	2.5 ± 2.0
	p-value	**<0.001**
	Δ	-3.3 ± 1.9
Satisfaction		8.3 ± 1.7

Data is presented as mean ± standard deviation.

Table 3: Number of Patients Meeting MCID Thresholds for Minimum 2-year Patient-Reported Outcomes

Outcome Measure	**Value**
mHHS	15 (83.33%)
NAHS	14 (77.78%)
HOS-SSS	11 (61.11%)
VAS Pain Scale	17 (94.44%)

Data is presented as number (%). mHHS, modified Harris Hip Score; HOS-SSS, Hip Outcome Score – Sport Specific Subscale; VAS, Visual Analog Scale.

Conclusion

Endoscopic release of the piriformis tendon and sciatic neurolysis have shown favorable outcomes, high patient satisfaction rates, and a high percentage of patients reaching clinically important thresholds, with a low rate of complications at a minimum 2-year follow-up.

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