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EFFICACY OF ERECTOR SPINAE APONEUROSIS INFILTRATION, COMBINED WITH REHABILITATIVE/FUNCTIONAL CARE IN CHRONIC LOW BACK PAIN PATIENTS : PSPS-1 AND 2

Practice Evaluation and Feasibility of a Comparative Study

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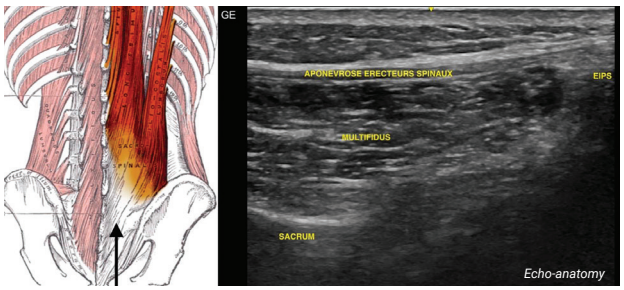
INTRODUCTION

Chronic common low back pain (Persistent Spinal Pain Syndrome) remains a ubiquitous concern within our healthcare scope. When pain becomes disabling despite surgical management (PSPS-2), the care plan aims to provide the individual with the best possible outcomes across three domains: FUNCTION – PAIN RELIEF – ENVIRONMENT.
The pathophysiology of this chronic pain condition is multiple and complex. We sought to offer an updated and innovative perspective, approaching spinal syndrome through its functional and muscular component: myofascial expression.
In our multidisciplinary experience, we introduced a minimally invasive paravertebral technique, guided by ultrasound, targeting the erector spinae aponeurosis in the lower lumbar region. The goal of this procedure is to provide analgesic comfort to the patient, enabling better adherence to rehabilitation (functional spinal restoration) and ultimately improving environmental impact.

OBJECTIVES

- Evaluate the efficacy of erector spinae aponeurosis infiltration (Lidocaine & Steroids) in chronic low back pain patients
- Identify differences in response between operated (PSPS-2) and non-operated (PSPS-1) patients
- Identify impact on rehabilitative care (FSR – Functional Spinal Restoration)
- Rank this procedure within the therapeutic options available to patients
- Commit to a prospective study



MATERIALS & METHODS

- Professional practice evaluation
- Consecutive inclusion of patients presenting PSPS type 1 or 2 from August 2024 to August 2025
- ESA infiltration proposed through multidisciplinary consultation (PM&R physician – physiotherapist – occupational therapist)
- For patients showing unsatisfactory progression (uncontrolled pain and/or nocturnal symptoms, daily use of rescue medications, worsening functional complaints) despite FSR care and standard therapeutic adjustments
- Targeted ESA infiltration: based on precise palpatory anatomy, at the site of pain identified by the patient, often bilateral, medial to the posterior superior iliac spine, in the peri-muscular connective tissue easily identifiable under ultrasound guidance
- Evaluation of outcomes at 3 months minimum (4 months maximum) via a structured questionnaire
- Completed remotely with assistance from a clinical research associate
- Data collection and analysis

RESULTS

- 56 patients were interviewed (29 PSPS-1 and 27 PSPS-2)
- 86% of patients reported pain relief at 1 month
- 68% of patients felt this procedure improved their adherence to FSR
- 57% of patients ranked this procedure first in terms of benefit within their care plan

Patients	Pain < 3 months	Pain > 3 months	FSR Adherence	#1 in Care Plan	No Effect
PSPS-1 (n=29)	24 (83%)	6 (25%)	21 (72%)	15 (52%)	5 (17%)
PSPS-2 (n=27)	24 (89%)	8 (30%)	17 (63%)	17 (63%)	3 (11%)

Statistical Analysis : P-values from exact one-tailed binomial tests (reference = 50%)
Overall effect (pooled sample):
• Pain < 3 months: $p = 2.3\times10^{-8}$ - FSR adherence: $p = 0.005$

Subgroup analyses:
• PSPS-1: pain $p = 2.7\times10^{-4}$, RFR adherence $p = 0.012$ - PSPS-2: pain $p = 2.5\times10^{-5}$, RFR adherence $p = 0.124$

CONCLUSION

This professional practice evaluation reveals a clear clinical signal in favor of erector spinae aponeurosivs infiltration, with a significant majority of patients reporting improvement in pain and rehabilitation adherence. Within a coordinated, multidisciplinary approach, this procedure appears to meet expectations for comfort and leads us to consider the myofascial component of the complaint. The paravertebral intervention is also relevant in light of updated guidelines, which are highly restrictive in the context of operated spine (PSPS-2). This practice evaluation justifies implementing a controlled prospective study.

Keywords: Chronic Low Back Pain, Operated Spine, PSPS-2, Infiltration, Erector Spinae Aponeurosis, Myofascial Syndromes, Functional Spinal Restoration

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