

Functional Anaesthetic Discography™ Procedure

Degenerative Disc Disease

Case Study

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Product Used:
DISCYPHOR™ Catheter System

PATIENT HISTORY

A 46 year old female presented with 100% axial low back pain persistent over the past eight years with progression over the past two years. Her axial pain symptoms were exacerbated after prolonged sitting and standing while symptoms were mitigated with medications. She was treated with non-operative care including physical therapy with a McKenzie program, oral medication and percutaneous procedures including lumbar epidural steroid injections at a bilateral S1 transforaminal approach as well as one bilateral L4-L5 and L5-S1 intra-articular Zygapophysial joint injection without relief. Her epidural steroid injection offered 10% relief at best, while the Zygapophysial joint offered no relief. After failing conservative care with persistence in symptoms in the context of lumbar disc degeneration with Modic endplate changes, discography was pursued.

PHYSICAL EXAMINATION

Lumbar spine range of motion (ROM) was restricted with forward flexion by 60% with complaints of pain. Extension was restricted by 15% with complaints of pain. Lateral flexion and rotation were within normal limits with complaints of pain. Strength was intact in the lower limbs with hip flexion, knee extension, ankle dorsiflexion and great toe extension. Muscle stretch reflexes were 2/4 symmetric in the quadriceps and Achilles tendons. Dural tension maneuvers were negative. Posterior to anterior mobilization of the lumbar spinous process caused pain with palpation over the lumbosacral junction.

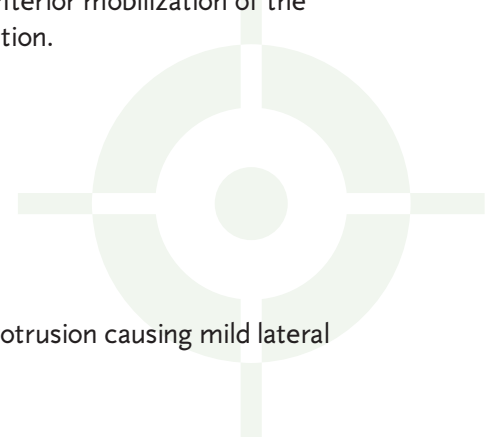
DIAGNOSTIC EVALUATION

MRI

L3-4: Normal

L4-5: Normal

L5-S1: Chronic type II Modic endplate changes with a left paracentral disc protrusion causing mild lateral recess stenosis



Provocative Discography

Level	Opening Pressure (psi)	Pressure at (Peak) Pain (psi)	Total Volume Injected (cc)	Type of Pain	Description of Pain	Morphology	Conclusion
L3-4	26	102 max	3.14	None	N/A	Lobular nucleogram	Control
L4-5	18	104 max	2.95	None	N/A	Cottonball nucleogram	Control
L5-S1	22	37	1.47	Concordant	Central and left side low back pain encompassing her exact pain	Fissure nucleogram	Positive

" 15 minutes after anesthetizing the disc with 0.75 cc of 4% lidocaine...the patient rated a subjective improvement of 90%. "

—Ryan Reeves, M.D.

Functional Anaesthetic Discography™ (F.A.D.™) Procedure

A DISCYPHOR™ Catheter was inserted into the L5-S1 intervertebral disc. The patient was asked to recreate her typical low back pain by sitting, standing, and bending, and rate her pain level. The patient was then injected with 0.75 cc of 4% lidocaine into the L5-S1 disc. After waiting 15 minutes for anesthetic onset, the patient was again asked to rate her pain level while performing the same activities.

Functional Anaesthetic Discography™ Procedure Pain Score Results

Level Injected	Baseline Pain (NPRS)	Post Injection Pain (NPRS)	% Pain Reduction	Interpretation
L5-S1	9/10 standing, walking and sitting	2/10 standing, 1/10 walking, 2/10 with forward flexion and 2-3/10 sitting	80% NPRS improvement; 90% subjective patient improvement	Positive

Post-Discography CT Scan

L3-4: Normal

L4-5: Normal

L5-S1: Grade 4/5 annular tear with small leftward disc protrusion causing mild lateral recess

ASSESSMENT

The F.A.D.™ Procedure confirmed one-level positive discogenic pain. The patient underwent an L5-S1 allograft anterior lumbar interbody fusion using LT cages supplemented with BMP without the need for posterior instrumentation.

Two months post-fusion, the patient was without complaints of axial pain. She did state that she felt a fatigue sensation but rated her pain score a 0/10. She resumed normal activity, however she was still off of work. She was off all medications for pain, and was to wean off her post-operative brace with a plan to return to work.

KEY POINTS

1. The F.A.D.™ Procedure confirmed diagnosis of L5-S1 as the primary pain generator.
2. Additional diagnostic confirmation increased confidence in selecting the most appropriate therapeutic recommendations, and improved the likelihood of surgical success.

DISCYPHOR™ Catheter System





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As with most interventional procedures, the Functional Anaesthetic Discography™ (F.A.D.™) Procedure has associated risks, including serious complications. For complete information regarding indications for use, contraindications, warnings, precautions, adverse events and methods of use, please reference the devices' Instructions for Use.

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