E-Poster

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Diagnostic and Therapeutic Strategies for Persistent Pain Following Lumbar Spine Surgery

Topic: Pain

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BACKGROUND

Persistent spinal pain syndrome type 2 (PSPS-type 2), formerly known as failed back surgery syndrome, refers to chronic pain following spine surgery. This condition significantly impacts patients' quality of life and often requires a multidisciplinary approach. Common causes of PSPS-type 2 include (1) inappropriate surgery (e.g., non-union, insufficient decompression), (2) recurrent pathology (e.g., recurrent disc herniation), (3) biomechanical changes (e.g., adjacent segment disease, developing multilevel degeneration), and (4) surgical sequelae (e.g., epidural fibrosis or scarring). This study aims to establish effective diagnostic and therapeutic strategies for managing PSPS-type 2.

METHODS

A retrospective review was conducted on 40 patients treated at Zuckerberg San Francisco General Hospital and Trauma Center/ Orthopaedic Trauma Institute between 2023 and 2025. All patients had a history of one or more lumbar spine surgeries and presented with persistent lower back pain with or without radiculopathy. Magnetic resonance Imaging (MRI) or computed tomography (CT) imaging was performed, and the patients received pain management, including medications and physical therapy. Electrodiagnostic studies, nerve conduction and needle electromyography (EMG) studies, were conducted in cases of multilevel degeneration or when the symptoms did not correlate with imaging findings. Diagnostic and/or therapeutic spine injections were administered accordingly.

RESULTS

Among the 40 patients, none had undergone inappropriate surgery. Three patients had isolated lower back pain without radiculopathy and were treated with facet blocks. The remaining 37 patients experienced lower back pain with radiculopathy. Electrodiagnostic studies identified the affected nerve root level. Among these patients with radiculopathy, six had recurrent pathology (e.g., recurrent disc herniation), 15 had adjacent segment disease without instability, four had adjacent segment disease with instability, and eight had multilevel degeneration (spinal canal stenosis and/or foraminal stenosis). These patients underwent diagnostic and therapeutic epidural injections. Additionally, four patients with epidural fibrosis or scarring were treated with percutaneous lysis of epidural adhesions. All patients reported varying degrees of symptom relief following treatment.

CONCLUSION

Persistent spinal pain syndrome type 2 (PSPS-type 2) is a complex disorder and requires a multidisciplinary approach. Advanced imaging and electrodiagnostic studies are essential for accurate diagnosis and effective treatment, including facet block, epidural injection, and percutaneous lysis of epidural adhesion. Further studies are needed to optimize long-term management strategies.

Statement of Disclosures

None

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