

## Original Articles

# Treatment of Chronic Discogenic Pain by Utilizing Both Nucleoplasty and Epidural Neuroplasty — One Year Follow-Up

Huan-Chieh Chen<sup>1</sup>, Yu-Ting Tai<sup>2,3</sup>, I-Jen Wang<sup>3,6,7</sup>, Woon-Man Kung<sup>1</sup>,  
Jia-Wei Lin<sup>4</sup>, Kuo-Sheng Hung<sup>1,5</sup>, Wen-Ta Chiu<sup>4,5</sup>, Tien-Jen Lin<sup>1,3,5</sup>

**Objective:** Both nucleoplasty and epidural neuroplasty have emerged as minimally invasive techniques for treatment of low back pain and sciatica due to contained herniated discs. Although there were some studies examining their effects on functional activity and pain medications, the results of a combination of the two procedures have not been analyzed as yet. The aim of our study was to evaluate the outcome of a combination therapy in patients with chronic discogenic pain or sciatica due to nerve root compression by a single-level, contained herniated disc.

**Methods:** Twenty-nine patients who had undergone the combination therapy of both nucleoplasty and epidural neuroplasty were included in the analysis and were evaluated at 3, 6, and 12 months postoperatively. They were asked to quantify their pain using a visual analog scale ranging from 0 to 10. The Oswestry Disability Index (ODI) was used to quantify disability by third-party observers. Patients were also surveyed with regard to their use of pain medications. We compared the data at 3, 6, and 12 months posttreatment to the baseline.

**Results:** There was a significant decrease in pain and use of medications in our study group. The functional status was improved at 3, 6, and 12 months. There were no complications associated with the procedure and we found continued improvements over time in the study group.

**Conclusion:** Nucleoplasty and epidurolysis in combination appear to be safe and effective in both early and later post-treatment periods. Further randomized, controlled studies are required to evaluate the long-term efficacy of the combination therapy.

**Key words:** discectomy, disc herniation, low back pain, minimally invasive, nucleoplasty, percutaneous disc decompression, caudal neuroplasty and epidurolysis

From the <sup>1</sup>Department of Neurosurgery, <sup>2</sup>Department of Anesthesiology, <sup>3</sup>Pain Research Center, Taipei Medical University, Wan Fang Hospital, Taipei, <sup>4</sup>Department of Neurosurgery, Taipei Medical University, Shuang Ho Hospital, <sup>5</sup>Graduate Institute of Injury Prevention and Control, Taipei Medical University, <sup>6</sup>Taipei Hospital, Department of Health, Taipei, <sup>7</sup>Department of Health Risk Management, China Medical University, Taichung

Received: April 30, 2009      Accepted: December 8, 2009

Address reprint request and correspondence to: Tien-Jen Lin, MD, Msc Wan-Fang Hospital, Taipei Medical University, 111 Section 3, Hsing-Long Rd., Taipei 116, Taiwan, Tel: 886-2-29307930, Fax: 886-2-27390387, E-mail: trlin@hotmail.com