

Selective endoscopic discectomy and thermal annuloplasty: A new technique for central disc herniations

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Objective: To determine whether Selective Endoscopic Discectomy™ and thermal annuloplasty for central disc herniations are efficient for patients with central disc herniations who have not been well described or distinguished from patients with paracentral and lateral herniated discs producing unilateral leg pain. The clinical presentation of central disc herniation is often unclear, and back pain may be intermittent and often lacking in specific dermatomal distribution.

Methods and Materials: From October 1991 to December 1997, 50 patients with central disc herniations underwent Selective Endoscopic Discectomy™ and thermal annuloplasty. MRI studies were reviewed to confirm and categorize the diagnosis of central herniation. Minimum followup time was 2 years. The evaluation consisted of a review of medical records, each patient's MRI, and a questionnaire, gathering information regarding pain, work status, consumption of analgesics, and time off work due to back pain. Oswestry scores were obtained pre- and postoperatively.

Results: The followup rate was 92%. Four patients could not be reached to fill out their postoperative Oswestry questionnaire. Forty two out of 46 patients (91%) had good to excellent results by Modified MacNab criteria. No serious complications were noted. Dysesthesia was the most common complication (8 patients), but in most cases was transient and temporary. The four patients who could not be reached for followup had relief of their preoperative back and leg pain at the time of discharge from active care. Two patients had a repeat surgery, one endoscopic and one microdiscectomy.

Conclusion: Selective Endoscopic Discectomy™ and thermal annuloplasty for central disc herniations are an adequate treatment option with no serious complications. Advantages compared to open procedures include outpatient scheduling, conscious sedation, less risk of epidural fibrosis, and low incidence of failed back surgery syndrome.

Key Words. central lumbar disc herniation, degenerative disc disease, selective endoscopic discectomy, minimally invasive technique, thermal annuloplasty

Although laminectomy/discectomy or microdiscectomy are acceptable methods of treating symptom producing central herniated lumbar discs in selected patients, the incidence of unpredictable and unsatisfactory outcomes due to lack of clear monoradicular radiculopathy, potential disc segment destabilization, and formation of scar tissue after the procedures^{2,35} have led most surgeons to be very conservative when recommending surgery for central disc herniations.

The main aim of this article is to introduce a new endoscopic technique for the treatment of central disc herniation, including thermal discoplasty and annuloplasty.

Materials and Method

Patient Selection and Evaluation

From October 1991 to December 1997, 50 (28 male, 22 female) patients with central disc herniations underwent Selective Endo-

scopic Discectomy™ (SED) and thermal annuloplasty. Fifteen patients regularly smoked cigarettes. Twelve patients were engaged in heavy labor.

MRI studies were reviewed to confirm and categorize central herniation: 1) apex of the disc herniation must be at least 3 mm, 2) 75% of the herniation should be in the midline medial to the inner pedicular line, 3) herniation less than 4 mm was considered small, 4-5 mm as moderate, and more than 5 mm large. Inclusion criteria were: 1) central disc herniation as defined above, 2) back pain with or without leg pain, and 3) conservative treatment of at least three months duration. Exclusion criteria were: 1) disc herniations other than central, 2) previous operation on the spine, and 3) other pathology or disease which would make evaluation difficult.

The postoperative followups were conducted after 2 weeks, 1 month, 3 months, 6 months, one year, and thereafter once a year. Minimum followup time was 2 years (range 2 - 8 years). The evaluation contained information regarding pain, work status, medica-