The Evolution of Spinal Endoscopy and Discoscopy in the Diagnosis and Treatment of Discogenic Pain

Introduction: Over six years experience with endoscopic spine surgery will be reviewed. Endoscopic surgery has evolved to allow surgeons to evaluate and operate on a variety of conditions that cause discogenic pain. Materials and Methods: From November 1991 to January 1998, 400 patients underwent spinal endoscopy and intradiscal therapy for back and leg pain. Most patients had proven disc herniations by MRI that failed conservative treatment, but there were subgroups of patients with recurrent disc herniations and discogenic back pain, including annular tears and lateral recess stenosis. Selected subgroups were then treated specifically for discogenic back pain without radiculopathy in a subsequent investigative series utilizing radio frequency.

Treatment Protocol: All types and sizes of disc herniations were treated arthroscopically if accessible through the posterolateral approach. Radio frequency electrodes (Ellman, Oratec) or the KTP laser were utilized to cauterize bleeding vascular structures and to clear the cavity for better visualization. If annular tears or defects were visualized, a radio frequency electrode was used to modulate the defects.

Results: All types of disc herniations were amenable to arthroscopic excision including extruded fragments if they were accessible from the posterolateral portal. Recurrent disc herniations after traditional surgery were ideal for arthroscopic removal. Most patients also experienced relief of back pain, even if it was the predominant pre operative complaint. Overall patient satisfaction was high (90%), even if they required subsequent traditional surgery (10%) to remove sequestered fragments or decompress the lateral recess. Complications were les than 2% and usually temporary. The nucleus pulposus and annulus were observed to shrink when heated with laser or electro-thermal electrodes.

Conclusion: The scope and application of minimally invasive techniques in spinal surgery is increasing. Evaluation techniques that now include visualization are testing the limitations of conventional surgery and imaging. The ability fo visualize spinal structures with the patient in a conscious aware state may better define the true source of discogenic pain and allow for more selective remedy in the future.

Posted 5/28/1998