Deuk Laser Disc Repair® - A Novel Motion Preserving Alternative to Cervical Discectomy and Fusion or Arthroplasty

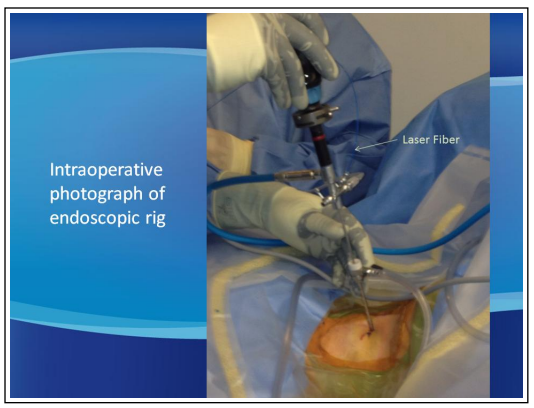
Ara J. Deukmedjian MD; Jason Cutright ST; augusto j cianciabella PA.C
Deuk Spine Foundation

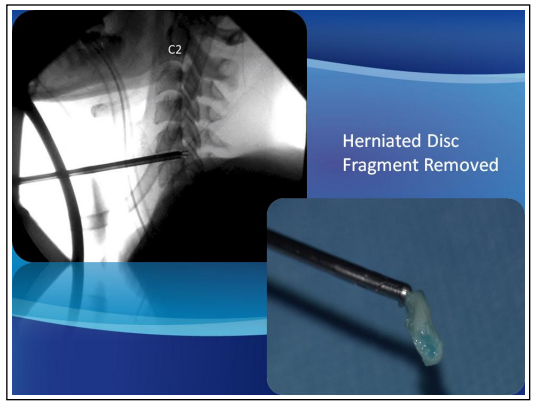
Introduction

We have developed a new minimally invasive, motion preserving, outpatient surgical procedure to endoscopically repair symptomatic cervical disc herniations without fusion, implants or biologics. We present the results of a prospective cohort study of patients that underwent the cervical spine Deuk Laser Disc Repair®.

Methods

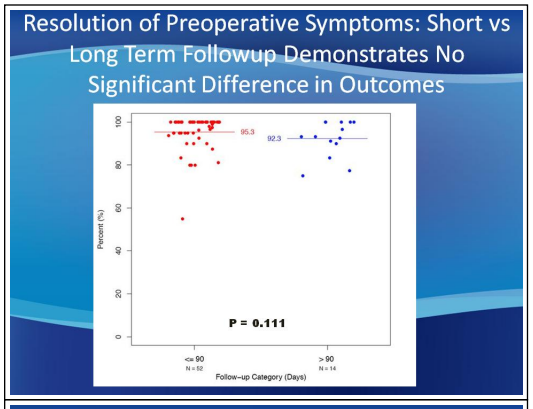
A prospective cohort of 66 consecutive patients undergoing Deuk Laser Disc Repair®, a novel anterior endoscopic partial discectomy, annular debridment and foramenoplasty, for one (n=21) or two adjacent (n=45) symptomatic cervical disc herniations were evaluated postoperatively for resolution of headache, neck pain, arm pain and radicular symptoms. All patients were candidates for cervical spine fusion but opted for minimally invasive disc repair instead. The Mann -Whitney-Wilcoxon test was used to calculate p-values.

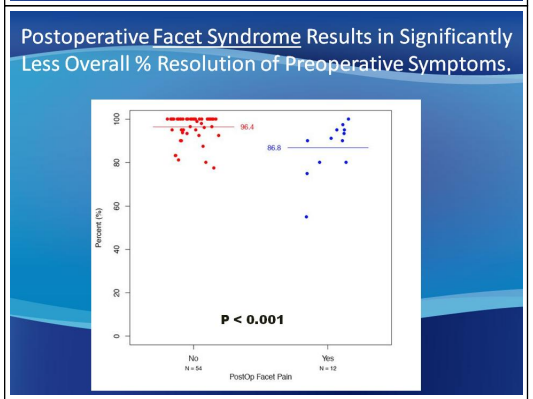


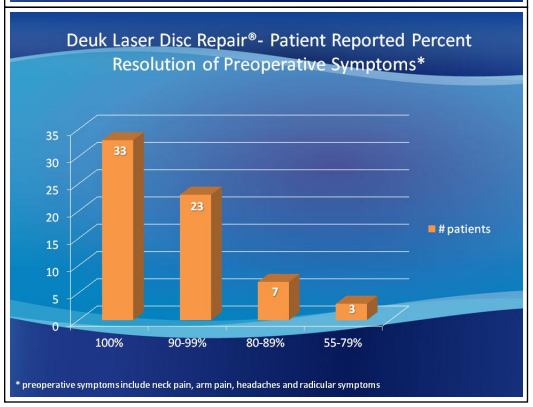


Results

All patients (n=66) had significant improvement in preoperative symptoms with an average symptom resolution of 94.6%. Fifty percent (n=33) had 100% resolution of all preoperative symptoms. Only 4.5% (n=3) had less than 80% resolution of preoperative symptoms. VAS significantly improved from 8.7 preoperatively to 0.5 postoperatively ($p<0.001$) for the cohort. Average operative and recovery times were 57 and 52 minutes respectively. There were no perioperative complications. Recurrent disc herniation occurred in one patient (1.5%). Average postoperative follow-up was 94 days and no significant intergroup difference in outcomes was observed ($p=0.111$) in patients with <90 days (n=52) or >90 days (n=14, mean 319 days) follow-up. No significant difference in outcomes was observed ($p=0.774$) for patients undergoing one or two level Deuk Laser Disc Repair®. Patients diagnosed with postoperative cervical facet syndrome did significantly worse ($p<0.001$).







Learning Objectives

1.Understand the role of endoscopy in treating symptomatic cervical disc herniations.

2. Recognize the benefits of endoscopic spine surgery.

Conclusions

Deuk Laser Disc Repair® is a safe and effective alternative to anterior cervical discectomy and fusion or arthroplasty for the treatment of one or two adjacent symptomatic cervical disc herniations with an overall success rate of 94.6%.