

Minimally Disruptive Posterior Cervical Fusion with DTRAX Cervical Cage for Single Level Radiculopathy - Results in 10 Patients at 1-Year

Bruce M. McCormack, Edward Eyster, John Chiu, Kris Siemionow

Rec date: Sept 29, 2015; **Acc date:** Jan 18, 2016; **Pub date:** Jan 20, 2016

Abstract

Objective: The authors present one-year clinical and radiographic outcomes of 10 patients with single level cervical radiculopathy due to spondylosis and stenosis treated with a minimally disruptive instrument fusion procedure employing bilateral posterior cervical cages.

Methods: A retrospective study of 10 patients with one-year follow-up who underwent cervical fusion using bilateral posterior cervical cervical cages placed between the facet joints was conducted at a single center. Neck Disability Index (NDI), Visual Analog Scale (VAS) for neck and arm pain, neurological status, adverse events, x-rays, and computed tomography (CT) were collected at baseline and 6-weeks, 3-, 6-, and 12-months postoperatively. X-ray and CT were assessed for segmental and overall cervical lordosis, fusion, and device retention.

Results: Subject age range was 51 to 78 years with a mean of 68 (6 males, 4 female). Five patients were treated at C5-6, four at C6-7, and one at C4-5. NDI and VAS score significantly improved immediately after surgery; outcomes were sustained at one year. NDI scores improved from a mean of 35 at baseline to 15 at one year. Mean scores on VAS for neck pain improved from a baseline of 8 to 2.5 at one year. Results were similar for arm pain on VAS; scores improved from 7.5 to 1.5 pre- and post-op, respectively. Evidence of fusion was observed for all subjects on lateral flexion/extension plain film radiographs. Bridging bone on CT was present in 9 subjects; findings were indeterminate for one subject. No significant change in segmental or overall lordosis was observed. There were no device breakages, device back out, or surgical re-interventions at one year.

Conclusions: One-year results show favorable improvements in pain and function in subjects with single level cervical radiculopathy due to spondylosis and foraminal stenosis treated with minimally disruptive posterior cervical fusion using bilateral cervical cages.

Key Insights

- One year retrospective clinical and fusion results for 10 patients treated with US-approved DTRAX Cervical Cage
- NDI and VAS scores improved significantly for all 10 patients following surgery and those improvements were sustained out to one year
- All 10 patients showed successful radiographic fusion defined as 1.5 mm or less change in distance between adjacent spinous processes
- Bridging bone on CT scan was present in 9 patients with 1 patient indeterminate
- No significant change in segmental or overall cervical lordosis
- No device breakages, no device expulsions, no surgical re-interventions