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P097

Long-term outcomes with the use of a carbon fibre cage for anterior cervical corpectomy and fusion in the treatment of cervical spondylotic myelopathy

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Optimal surgical methods for treatment of cervical spondylotic myelopathy (CSM) remain poorly evident. Anterior cage reconstruction may be associated with mechanical complications. Reconstruction with a carbon fibre reinforced polymer cage may provide an appropriate alternative to traditional reconstructive options. Thus this cage was evaluated through clinical and radiographic outcomes at a single centre with multiple surgeons.
Methods: Patient records were assessed. Patients were contacted for clinical and radiographic assessment. Exclusions were for active infection, tumoral pathology and fracture.
Outcomes included: Peri-operative, radiological (Cobb & C2C7 angle, flexion-extension angles (index & adjacent) and Bridwell fusion grade) and clinical (European Myelopathy and Nurick scores and Pain (VAS)).
Results: 100 consecutive patients (30 female & 70 male) with minimum 3-year & mean 6.5-year follow up. Neurological status was normal in 42 patients, with cord dysfunction in 48 (Ranawat grade 2 in 27, 3a in 18 and 3b in 3) and with contributing pathologies affecting clinical assessment in 10.
Mean length of stay was 5.5 days, blood loss 322mls and operative time 98 mins. Corpectomy levels included 10 C4, 14 C5, 44 C6, 1 T2, 7 corpectomies plus discectomy with fusion, 18 two-level and 5 three-level corpectomies, all with an overlying plate. 13 had peri-operative complications including a five dural tears, two respiratory infections, one inferior limb ischaemia, three cervical haematomas and three early cage revisions (two mal-positions and one early migration).
Seven were lost to follow-up. Mean pre-operative pain scores were VAS Neck 4.6 and VAS Arm 5.1 and post-operatively, VAS Neck was 2.6 and VAS Arm was 1.9. Nurick score improved from 1.2 to 0.4/4. Mean EMS was 15.9/18 at follow-up.
48 patients returned for radiographs for the purposes of the study. Flexion-extension angulation differences of >3 were present in 4 patients, all of which displayed fusion of either grade 1 or 2. 6/48 had a kyphotic C2C7 alignment.
Long-term results indicate that the use of a composite carbon fibre cage in corpectomy for CSM is safe, durable and with a low revision rate. Complications were mostly related to malposition on implantation or dural tears due to adhesions

P098

Comparison of outcomes of open door laminoplasty and muscle preserving selective laminectomy for cervical spondylotic myelopathy in young adults

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Introduction: Efficacy of laminoplasty in elderly patients with cervical spondylotic myelopathy (CSM) has been widely reported. The purpose of this study was to compare surgical outcomes in young adults between open door laminoplasty (O group) and muscle-preserving selective laminectomy using operating microscope (S group).
Methods: This is a retrospective study. Total 1178 patients who received posterior decompression for CSM from 2012 to 2014 in 17 affiliated hospitals were reviewed. After applying inclusion criteria (CSM, age at surgery <45 years and with minimum of 2 years follow-up), 26 patients (25 males and 1 female) were included in O group and 22 patients (15 males and 7 females) in S group. Age at surgery, numbers of decompressed levels, operating time, blood loss, Japanese Orthopedic Association (JOA) score, imaging parameters in plain radiographs and perioperative complications were evaluated.
Results: Age at surgery was 38.2 and 39.1, number of decompressed levels was 3.3 and 3.2, JOA score (preop./final follow up/change/recovery rate) was 10.7/ 13.9/3.2/56.8% and 12.2/15.0/2.8/60.3% in O and S group respectively. There were no significant differences in these parameters between the two groups. In S group,

Long-Term Outcomes with Carbon Fibre Cage Reconstruction in Cervical Spondylosis

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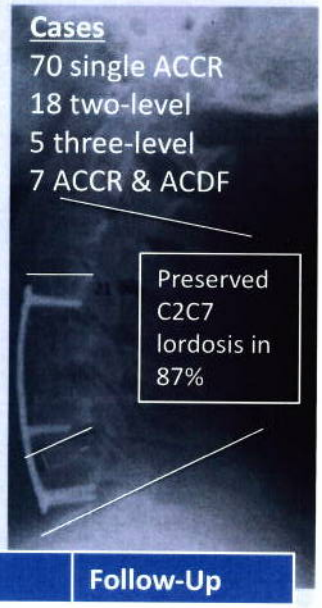
Introduction: Optimal surgical methods for treatment of multilevel cervical spondylosis (MCS) remain ill-defined. Anterior corpectomy & cage reconstruction (ACCR) may be associated with mechanical complications. A carbon fibre reinforced polymer cage may provide an appropriate alternative to traditional reconstructive options.

Methods: Retrospective review of a single centre multi-surgeon cohort of MCS patients from 2007 to 2012. Outcomes included peri-operative, clinical and radiographic.



Peri-operative Outcomes (SD standard deviation)

Blood Loss 322mls (358)
Operative Time 98 mins (31)
3 Early revisions (<3 months)
5 Dural Tears
3 Haematomas requiring evacuation
Length of Stay 5.5 days (3.5)

Clinical Results

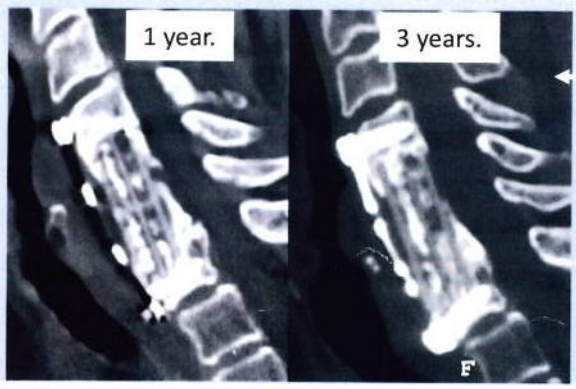
Follow-up:
Minimum 3.5 yrs,
Mean 6 yrs.

Mean Values	Pre-op	Follow-Up
VAS Neck	4.6	2.6 (p< 0.01)
VAS Arm	5.1	2.0 (p<0.01)
Nurick	1.2	0.4 (p<0.01)
EMS		15.9/18
mJOA		14.0/17

Cage with graft, for insertion

Radiographic Follow Up

53 follow-up radiographs were obtained for the purposes of the study.
Pseudoarthrosis (Flexion-extension >3° at the instrumented level): 4, all of which displayed fusion of either grade 1 or 2.
7 had a kyphotic C2C7 alignment. Mild subsidence in 11, often limited by an underlying screw.
Adjacent level stiffness (<5 ° ROM) 5/34 proximal & 2/20 distal levels



Case of slow but persistent fusion

Conclusions: Long-term clinical and functional outcomes of this carbon-fibre cage indicates that it is safe and durable for the treatment of MCS.