

The Early Outcome Of Anterior Cervical Discectomy And Fusion (ACDF) In Pusat Perubatan Universiti Kebangsaan Malaysia (PPUKM) - Retrospective Analysis Of 2-Year Post-Operative

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INTRODUCTION:

This study evaluated radiological and functional outcomes following anterior cervical discectomy and fusion (ACDF) with varying aetiologies treated at Pusat Perubatan Universiti Kebangsaan Malaysia (PPUKM).

METHODS:

This retrospective study looked at patients who underwent ACDF surgery between 2010 and 2014. Thirty-two patients, who underwent fifty-four levels of ACDF in total were enrolled in this study. The radiological outcomes included the type of union, global and segmental lordotic correction and cage subsidence. For each subject, data was collected from pre-and post-operative radiographs. The functional outcomes were evaluated using Japanese Orthopaedic Association (JOA) for cervical myelopathy, Neck disability index (NDI), Visual Analog Score (VAS), ODOM score and Nurick Scale. For functional outcome, the data was extrapolated from clinical documentation in patients' hospital notes. The results were analysed using SPSS software.

RESULTS:

There were 59.3% of levels achieved full union (type III), 27.7% of type II and 12.9% of type I at final follow up. Mean global lordosis prior to op was 17.112 ± 13.82 degree, improved to 24.484 ± 15.68 degree post op and lordosis reduced to 22.913 ± 15.72 degree after 2 years. The mean segmental lordosis was 0.976 ± 4.65 degree, increased to 6.416 ± 6.26 degree before returned to 2.719 ± 5.63 degree at final follow up. The segmental lordosis had significant positive correlation to full union (Type III). Mean subsidence at 2 years was 1.722 ± 1.87 mm with 25% of patients had more than 3mm subsidence after 2 years. There was a significant association between smoking and pseudoarthrosis (Type I union) but there was no correlation between union and other co-morbidities included

diabetes mellitus and hypertension. The mean VAS reduced from 6.72 ± 1.14 to 4.19 ± 0.82 . Only VAS score showed a significant result. The NDI, Nurick score, ODOM rating and JOA improved but not statistically significant. There was no correlation between the improvement in radiological outcomes and functional outcomes

CONCLUSION:

The segmental cervical lordosis correction was a strong predictor of complete radiological union. History of smoking was one of the main contributor in development of pseudoarthrosis. Improvement in patients' satisfaction as reflected by improvement in functional outcomes scoring nevertheless did not correlate with changes in radiological parameters.

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