

Cervical Range of Motion and Functional Outcome in Patients who Have Sustained Anterior Cervical Discectomy and Fusion Surgery (ACDF)

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Introduction

Anterior cervical discectomy and fusion (ACDF) with PEEK cage constitutes the most commonly performed surgical procedure for managing patients with radiculopathy and/or myelopathy caused by cervical degenerative disc disease and/or cervical spondylosis. The aim of our present study was to detect the progress of cervical range of motion (C2-C7) and its relationship with functional outcome of patients underwent ACDFs with PEEK cage, for degenerative only changes.

Methods

28 patients (17 male and 11 female), with mean age of 48 years, underwent anterior cervical discectomy and fusion with PEEK interbody cage filled with allograft. Twenty four of them used only hard brace postoperatively and 4 of them hard and soft brace sequentially. The use of brace ranged from 30 to 120 days with a mean of 35 days postoperatively. Lateral radiographs of the cervical spine in a position of maximal flexion, and also of maximal extension were used to examine the cervical (C2-C7) range of motion. The Neck Disability Index (NDI) was used to record the progress of the patients regarding their functionality.

Results

There was a successful implantation of PEEK cage and fusion for the sum of cases and there was a significant improvement of their neurological status at their discharge from the hospital. Mean value of the cervical range of motion was 47° preoperatively, and was decreased to 35°, twelve months postoperatively. Likewise, mean value of NDI was 26.5% preoperatively and was decreased to 0.7%, twelve months postoperatively.

Conclusions

Cervical (C2-C7) range of motion of patients who have undergone anterior cervical discectomy and fusion with PEEK interbody cage, clearly is decreased postoperatively but it does not seem to negatively affect the functional outcome of patients, when it is assessed using NDI score.

Learning Objectives

By the conclusion of this session the participants should be able to: 1) understand the concept of Range of Motion changes (ROM) in Anterior Cervical Discectomy and Fusion surgery (ACDF), 2) study the impact of ROM changes on patient's functionality expressed by Neck Disability Index (NDI).

References