

Anterior Cervical Discectomy and Fusion Using Single Screw Plate with Artificial Graft Compared to Conventional Double Screw Plate with Allograft.

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Introduction

There are different options in using various plates and grafts to perform ACDF procedure. The aim of this study is to compare the outcome of fusion rate and the complication of the technique of using single screw plate (SSP) with artificial graft to the conventional double screw plate (CDSP) with allograft.

Methods

This is a retrospective study of 112 patients undergoing one, two and three level ACDF from 2/2007 to 5/2011. The single screw plate group consists of 78 patients with 77 % of them using artificial bone graft with titanium cage, and 23% allograft. The other group used conventional double screw plate with 100% using allograft. Mean age was 50.1 and 49.5 respectively for single screw plate and conventional double screw plate group. This analysis is a chart review which includes operative reports, hospital and outpatient clinic records, as well as radiographic images for each case. The comparison of the two groups consist of presenting symptoms, number of levels being operated, postoperative complications, evidence of fusion failure, the need of reoperation for adjacent level degenerative disc disease, persistence or resolution of the preoperative symptoms. The mean duration of follow up is 7.13 months for SSP group, and 10 months for CDSP group.

Results

This is a retrospective study of 112 patients undergoing one, two and three level ACDF from 2/2007 to 5/2011. Cases were analyzed in two groups based on the technique used based on the surgeons/ patient preference. The single screw plate group consists of 78 patients with 77 % of them using artificial bone graft with titanium cage, and 23% allograft. The other group used conventional double screw plate with 100% using allograft. Mean age was 50.1 and 49.5 respectively for single screw plate and conventional double screw plate group. This analysis is a chart review which includes operative reports, hospital and outpatient clinic records, as well as radiographic images for each case. The comparison of the two groups consist of presenting symptoms, number of levels being operated, postoperative complications, evidence of fusion failure, the need of reoperation for adjacent level degenerative disc disease, persistence or resolution of the preoperative symptoms. The mean duration of follow up is 7.13 months for SSP group, and 10 months for CDSP group.

Conclusion:

From our study results that the hardware failure is 3% in CDSP group compared to no failure in the SSP group, as well the complete clinical resolution of the symptoms was respectively 53% and 64 % for CDSP and SSP group. Based on those results there is no statistically significant difference that shows any superiority in outcome of using Conventional Double Screw plate with allograft over Single Screw Plate with artificial graft in one and two level ACDF.



