Abstract #1029.doc

PROSPECTIVE COMPARISON OF DYSPHAGIA FOLLOWING ANTERIOR CERVICAL DISCECTOMY AND FUSION (ACDF) WITH AND WITHOUT rhBMP-2.

Introduction: The safety profile of rhBMP-2 in anterior cervical spine surgery remains incompletely understood. BMP might worsen dysphagia after ACDF due to soft tissue swelling, although dysphagia is a common complication of ACDF without BMP. A retrospective chart review identified a significant increase in the severity of dysphagia after two level ACDF with BMP compared to patients who did not receive BMP. However, to date this problem has not been studied prospectively.

Methods: Patients undergoing 1- or 2-level ACDF with allograft alone or allograft plus 0.5mg rhBMP-2/level (according to patient and surgeon preference) were prospectively enrolled in this IRB approved study. All surgeries were performed at a single institution with the same brand of plate and allograft. Patients who received BMP also received parenteral dexamethasone followed by an oral taper upon hospital discharge. Patients were followed prospectively at multiple time-points (pre-op, post-op 7 days, 6 weeks, and 3 months) with the SWAL-QOL questionnaire, which has been previously utilized to detect dysphagia after anterior cervical spine surgery. Multivariable repeated-measures analysis was applied to data gathered thus far, and patient enrollment and follow-up to one year is ongoing.

Results: Eighteen patients underwent 1- or 2-level ACDF with BMP, of which 11 were followed to the six month time-point. Thirty eight patients underwent 1- or 2-level ACDF without BMP, of which 19 were followed to the six month time-point. Mean retractor time was 63 minutes. There was no statistically significant time-effect in either group (SWAL-QOL scores pre-op compared to post-op; p=0.339). There was no statistically significant difference in SWAL-QOL scores between the BMP group and the non-BMP group at any time-point (p=0.185), as shown in the figure. There was no significant increase in SWAL-QOL score with longer retractor time (p=0.90). When adjusted for Mallampati scores, there were still no statistically significant differences in pre-op and post-op SWAL-QOL scores at any time point between the two groups (p=0.66). There were no incidents of airway compromise in either group.

Conclusion: These preliminary data suggest that the use of low dose rhBMP-2 does not significantly increase postoperative dysphagia after 1- or 2-level ACDF with allograft.