

Response to Reviewers

All changes to manuscript are shown in underline with updated tables and references.

Manuscript NO: 33634

Title: Radiographic and Clinical Incidence of Soft Tissue Swelling After Anterior Cervical Discectomy and Fusion Using Pure Demineralized Bone Matrix Anterior to The Cage In An Ambulatory versus Hospital Setting.

Reviewer's code: 02444729

Comments to authors

The authors of this paper determine the outcomes of DBM use in anterior cervical discectomy and fusion (ACDF) in an ambulatory surgery center (ASC) by evaluating prevertebral soft tissue swelling (PVSTS) in 145 patients with prospectively collected data. The authors showed that ACDF with adjunct DBM packed PEEK cages has a significant intragroup improvement in VAS neck pain scores and NDI scores ($p = 0.001$). There were no reported serious patient complications; post-operative radiographs demonstrated no significant difference in prevertebral space. We conclude that ACDF with DBM-packed PEEK cages can be safely done in an ASC with satisfactory outcomes. Interesting paper with big number of cases .
Limitations: this is one surgeon series only. Another bias is : All preoperative radiographs were reviewed by the chief surgeon. This seems not to be the rule in such evaluations. At which time were plain roentgenograms made for fusion evaluation? Which method was used by the raters to secure diagnosis of interbody fusion? Who has evaluated the fusion postop? Regarding the method of prevertebral edema measurement I have some concerns regarding repeatability. Is this method established and validated? How many radiologists were involved? Shorten the results section and put the data in the Tables. Discussion section ok

Response to Reviewer

The author would like to thank reviewer for expert comments and have addressed all concerns. Comments all radiographs were assessed not only by chief surgeon but two additional researchers (FJRP, JMV) and reports of all images obtained prior to operation from Board Certified radiologist. This was to ensure correct diagnosis as well as decreasing variability in measuring technique. Fusion evaluation was at two year follow up again by three researchers (KRC, FJRP, JMV) as well as an independent radiologist report; with the criteria of no movement of implant on flexion, extension views. New citation is also included to support this method. The method of measurement used is similar to previous studies by Kepler and Khaki. Measurements were performed in Radiant Viewer by two researchers (FJRP and JMV) to ensure validity of technique and technique evaluated by independent radiology group. From the

literature using C2 and C6 as standard markers technique is standardized. We have shortened results with updated Table 1, 2 and 3.

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Reviewer's code: 00501340

Comments to authors

Very good work. Some minor changes needed.

Abstract In the session of materials and method a little bit more explanation is needed.

Introduction Well presented. As far as it concerns the rh-BMP, it has been accused for some more complications even for cancer.

Materials & Methods Very well presented analyzing the surgical technique and the follow-up

Results Very good presentation of the findings

Discussion Very good structure, nevertheless the literature should be analyzed a little bit more. Moreover, a paragraph should be added summarizing the conclusions of the study. In general, a very good paper with a few corrections as far as it concerns the language.

Response to Reviewer

The author thanks the reviewer for expert comments and have made appropriate changes including updated methods section and addition of conclusion.

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Reviewer's code: 03067679

Comments to Author

Very well written and straight forward manuscript. Adequate detail and design. Some clarification is needed with the purpose particularly in the abstract. The Abstract AIM should be revised. Note the outcomes being measured are the VAS and NDI not the PVSTS. The PVSTS is documenting the presence or lack of a complication post sx. In the Abstract Results the VAS and NDI are not noted although they are stated in the conclusion. Enhance the introduction by adding information on the common onset and trends of post op swelling. It will provide better clarification and avoid issues when you not that you stopped assessing for swelling at 1 week post op. Informing the reader that peak swelling appears seems to typically occur at 3 days post op would be helpful. The manuscript I reviewed was missing Tables 1 and 4. These tables are essential to the manuscript and its credibility – particularly table 1. Also, include the timeframe with the tables for when the measurements were taken post op.

Response to Reviewer

The authors thank reviewer for expert comments and have made appropriate corrections. The abstract aims and results have been updated. In introduction study by Suk et al has been added as reference for peak onset. Re tables Table 1 and 4 have now been added to manuscript.

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Reviewer's code: 02703806

Comments to Author

It is a well written paper. Good sample size. Concerns I have are- 1. Was a radiologist involved in radiological evaluation of post-operative pre vertebral swelling and bony fusion? 2. Conclusion needs to be included after discussion, it's very important.

Response to reviewers

A radiologist was involved in all stages of study; pre and postop reports as well as validating technique of measurements. We have added conclusion to discussion.