Reviewer’s report

Title: The effects of anterior vacuum disc on surgical outcomes of degenerative versus spondylolytic spondylolisthesis: at a minimal two-year follow up

Version: 1 Date: 2 June 2014

Reviewer: Gabriel Gutman

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Major Compulsory Revision
1. Comparison between DS and IS is debatable because are different pathologies as stated in the discussion.
2. The instability caused by the disc is mainly because of the disc space height rather than the vacuum phenomenon. I think this issue should be addressed in more detail.
3. Background: Last paragraph. Hypothesis: To compare whether PLF rate is reduced in anterior Vacuum disc it should be compared vs PLF rate without vacuum or with PLF + IBF (interbody fusion)

Discretionary Revisions:
1. Results: The incidence of the vacuum phenomenon was significantly higher in the IS group (P<0.001): Not clear to me. according to the inclusion criteria all patients were with vacuum phenomenon.
2. Clinical Results: The success rate was higher in the cage group, but without a significant difference (75.0% vs. 59.1% p=0.164). Not clear. According to Inclusion Criteria and methods no patients underwent cage.
3. Discussion: however, controversy regarding instrumentation and noninstrumentation still exists.[19]: I think that this is correct for the 2004, but in 2014 it is clearly demonstrated in several trials (ex. SPORT) that instrumented fusion is better.
4. Discussion: Second paragraph. ref 21-23: How these studies evaluated fusion? If in these studies fusion was evaluated by CT, may be the fusion rates are higher.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.