Reviewer's report

Title: An observational cohort study of the effects of septoplasty with or without inferior turbinate reduction in patients with obstructive sleep apnea

Version: 3
Date: 3 September 2014

Reviewer: Toyoaki Ohbuchi

Reviewer's report:

The findings of this cohort study are very interesting and have a possibility to expand the previous knowledge that nasal surgery has a potential effect on sleep disordered breathing in OSA patients with nasal obstruction. However, several issues remain unresolved in current version. I have some questions and comments as listed below which may help improve the manuscript.

Major Compulsory Revisions

1. As authors realize in lines 195-196, a lack of objective measuring of pre- and post-operative nasal obstruction is a critical weak point in this study. Even if there are no differences between septoplasty only (Group 1) and septoplasty + turbinates volume reduction (Group 2) regarding several pre-operative indices (AHI, ODI, ESS, Mallampati score, age, gender, and BMI), the pre-operative difference of contribution of nasal flow resistance on OSA between the groups is unclear. Given these population, the effect of nasal surgery on AHI reduction is not necessarily convincing validity. If data about nasal airflow measured by acoustic rhinometry or something else are available, authors should add the information in the manuscript. Or if it’s difficult to get the pre-operative data anymore, authors should at least add information other pre-operative objective parameters such as presence or absence of allergic rhinitis, nasal polyp, sinusitis, and hyperplasia of palatine tonsil. Finding of rhino-sinus CT is also helpful.

2. Authors should include the information about medication (trans-oral and/or nasal drops) during post-operative 3 months period.

3. After all, the essential conclusion which is led from this study is unclear. It might be resolved along with the resolution to comment 1 above.

4. A border between subjective and objective parameters should be defined. For example, although authors described “except the ESS score” in line 217, is the ESS score included in the objective parameters? This might lead the title change appropriately.

Minor Essential Revisions

1. Line 63; “OSA” should be defined.
2. Line 67; “(FSI)” should be deleted.
3. Line 85; “obstructive sleep apnea” should be changed into “OSA”.

4. Line 102; “AHI” should be defined.
5. Line 112; “apnea-hypopnea index (AHI)” should be changed into “AHI”.
6. Whole Results; P-values should be described instead of “P < 0.05” and “P < 0.01”.
7. Whole Results; Authors might want to describe the values as below. e.g., 28.1 ± 3.1
8. Line 155; “CPAP/bipap” should be defined.
9. Line 155; “obstructive sleep apnea” should be changed into “OSA”.
10. Line 208; “quality of life” should be changed into “QOL”.
11. Line 214; Comma should be inserted after “In this observational cohort study”.
12. Line 329; This sentence seems not to make sense. Please make sure.

Discretionary Revisions
How are the other factors measured by polysomnography, such as maximum apnea time, mean apnea time, minimum blood oxygen saturation, mean blood oxygen saturation, awakening response index, and ratio of snoring time to sleep time?

Level of interest: An article of limited interest

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

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

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