Reviewer’s report

Title: The relationship between the level of μ-opioid receptor (μORs) and postoperative analgesic use in patients undergoing septoplasty: A prospective randomized controlled trial.

Version: 4 Date: 30 Jul 2020

Reviewer's report:

The overall purpose of the study was to determine the association between μ-Opioid receptor activity and postoperative pain level. Thanks to the authors for their effort revising the manuscript. However, there are still some points to discuss. You can see my comments below:

1. Abstract, Results, Line 24: The sentence 'Demographic data and peri-operative variables was similar in both study group' should be corrected as 'Demographic data and peri-operative variables were similar in both study groups'

2. Background, Page 3, Line 55: The statement 'Opioid rece...' should be corrected as 'Opioid receptors are classified....'

3. Methods, Page 5, lines 53-56: 'The mean amount of tramadol used in all of study patients were 100 mg (1-2mg/kg). In the control group, the average dose of fentanyl was 75 mcg and performed only during induction.' The mean amount of used drugs seems to be a result which is obtained at the end of the study. This information is unnecessary in methods section, please remove it from this section.

4. Methods, Page 6, Lines 46-47: The sentence 'In patients both group, the changes of mean arterial pressure, heart rate and Ramsay Sedation Scales....' should be corrected as 'In both groups,......' or 'In all patients,.....'

5. The primary and secondary outcomes are now more clear. I just recommend to mention them before the subtitle 'statistical analysis'.

6. Statistical analysis, Page 7: "The power analysis was performed after the analysis result for the study to detect the difference between the groups in respect to post-operative pain level" This sentence above is understood as power analysis has been performed after the study, not during the planning. And also it doesn't mention about how much difference (ex: a difference of 4 points in VAS etc) between the groups was accepted as statistically important. Please correct the sentence or just remove it from the manuscript, the rest of the statistical analysis section is clear enough.

7. Results, Page 9, Line 6-14: 'A double-blind method was used in the study. The patients and research staff were blinded to group allocation. The first group (n=60) was patients using tramadol, and the second group (n=60) was the control group in which patients were initially
given fentanyl in the induction for analgesia.' These were already mentioned in methods, please remove from results.

8. Results, Page 10, Line 10: '…the severity pain of post septoplasty' should be corrected as '…the severity of pain of post septoplasty'

9. Results, Page 10, Line 55-57: 'VAS and a second analgesic in both ….' would be better as 'VAS and second analgesic need in both…'

10. Results, Page 11, Line 11: 'Ramsay Sedation Scale (RASS) were similar in both groups' would be better as 'Ramsay Sedation Scale (RASS) scores were similar in both groups'

11. Discussion, paragraphs 3-4-5-6: Please relate and discuss all these information with your results and maybe shortening this section would be better. Discussing the literature with your results is usually better than just giving information.

12. Limitations, Page 15, Line 19: 'First, we used the weak μ-Opioid receptor agonist the tramadol…' can be corrected as 'First, we used the weak μ-Opioid receptor agonist, tramadol…'

13. Limitations, Page 15, Line 28: 'In similar studies, more efficient results may be obtained when using other opioid analgesics, which are more potent, a highly efficacious agonist at the μORs.' should be corrected as '……opioid analgesics, which are more potent, highly efficacious agonists at the μORs.'

14. Limitations, Page 15, Line 34: 'patient's venous blood…' should be corrected as 'patients' venous blood…'

15. Table 2: Highest and lowest values have SD values. Please correct it.

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Yes

Are the methods sufficiently described to allow the study to be repeated?
Yes

Is the use of statistics and treatment of uncertainties appropriate?

Yes

Is the presentation of the work clear?

Yes

Are the images in this manuscript (including electrophoretic gels and blots) free from apparent manipulation?

Yes