Reviewer’s report

Title: Development of an algorithm using clinical tests to avoid post-operative residual neuromuscular block

Version: 0 Date: 27 Apr 2017

Reviewer: Fülesdi Béla

Reviewer's report:

This is an interesting and important study in which the authors tested the usefulness of the sensitivity of clinical tests against calibrated and uncalibrated AMG devices for the detection of PORC. In fact, quantitative monitoring is not frequently used in the clinical setting at all and its use in the postoperative setting in an awake patient is restricted because of the painfulness of stimulation.

The study is well planned. In a separate group of patients, among the numerous clinical tests that were in use for detecting the PORC the authors developed and algorithm of the most sensitive ones and tested its usefulness in a multicentric trial.

The figures and tables are informative and demonstrative.

I have some minor comments:

1. I completely agree with the authors that a sensitive test is needed for the diagnosis of PORC in the PACU. However, I think you should make clear in the discussion that decision making on extubating the patient in the OR should be based not on clinical signs but on objective neuromuscular monitoring. I realized, that the authors have the same opinion but this has to be explicitly addressed.

2. According to the results of previous surveys among anesthetists in the US and Europe, our colleagues consider the incidence of PORC much lower that it in fact is and additionally some of them rely on clinical tests with low sensitivity (such us TV or inspiratory force). Additionally, some clinicians decide not to use reversal agents before extubation at all based on their routine clinical judgment. In a recent study from Nemes et al. (Impact of reversal strategies on the incidence of postoperative residual paralysis after rocuronium relaxation without neuromuscular monitoring: A partially randomised
placebo controlled trial. Eur J Anaesthesiol. 2016 Dec 26. doi: 10.1097/EJA.0000000000000585.) it has been shown that this strategy may increase the incidence of PORC. You may include a brief description on this in the discussion section in order to support the importance of your study.

3. In fact, an important limitation of the study is that only ASA I-II patients were included. However, the material is innovative and the algorithm has to be tested in later studies among ASA III-IV patients as well.

4. My this reviewer just propose that the authors include a brief description of the proposed algorithm of clinical signs that was proved to be sensitively detect TOFR 0.9 in the discussion section.

Thank you very much for giving me the opportunity to read and review this excellent manuscript.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

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