Reviewer’s report

Title: No correlation between minimal electrical charge at the tip of the stimulating catheter and the efficacy of the PNB catheter for brachial plexus block

Version: 1 Date: 8 February 2014

Reviewer: gianluca cappelleri

Reviewer’s report:

BMJ anesthesiology 2/2014
Revision Schoenmakers K. “No correlation between minimal electrical charge at the tip of the stimulating catheter and the efficacy of the PNB catheter for brachial plexus block”

In this study Schoenmakers and colleagues found a correlation between the minimal electrical charge at the tip of stimulating catheters and its efficacy after brachial plexus block.

Major compulsory revisions

There are several methodological concerns regarding the main outcomes.

1. The authors conclude that “the extra cost of stimulating catheters is not balanced by a better performance when compared with nonstimulating ones”. Unfortunately this sentence is not supported by the study design. In fact the authors did not perform a comparison between stimulating Vs nonstimulating catheters, they just performed 34 consecutive brachial plexus block via stimulating catheters using a stimulation endpoint in a way that it was not intended. Catheter insertion did not follow the technique used in previous studies (reference 8,9 in the manuscript amongst many) where nerve stimulation was maintained during insertion, instead the catheters were advanced “blindly” 2-5 cm past the needle tip and then registered the MEC. The results are 29/34 pts (85 %!) with a final current output > 50nC. In all previous studies the better performance of stimulating catheters were achieved inserting the catheter while maintaining the motor response with a current output <0,5mA (Rodriguez J RAPM 2008;33:285-290, Paqueron X RAPM 2009;34:290-95, Salinas 2003 etc).

2. Several studies reported e successful single-shot intercalene brachial plexus block (complete sensory and motor block) after 20 ml of ropivacaine 0.75% injection, with a duration ranging between 10-13h. In the present study the authors performed only a sensory test to evaluate the success rate . Moreover 15/34 pts (44%) lost the first evaluation at 30 min. There is a higher risk of “first block failure” that the authors did not assess. VAS score at recovery room (more or less two hours after RA) cannot be used to define the success rate.

3. The statistical methodology is poorly described and confusing. At the end of the methods section you reported primary outcome as an appropriate motor response of the blindly inserted......and PCA morphine consumption during the
first 24h. What does it means “appropriate motor response”? Is a nerve stimulator value? Which is the correlation with morphine consumption and justification for sample size? Please clarify

Minor essential revisions
1. Scholarly English should be revised.
2. All Acronym (i.e. PNB, OR) should be extensive written before (In the title as well)
3. Abstract methods. Primary endpoint is not clear, as well as the results: which was the morphine consumption?
4. Abstract conclusion: The possibility to stimulate the catheter tip is not clinical meaningful. The insertion while maintaining nerve stimulation increases catheter performance.
5. Background. References 1,2. I suggest to delete it, it is very old, you can report reference 7 instead, and adds several publications by sala-blanc, Hadzic.....
6. Methods: The anesthetic procedure is poorly described. You have to report the name of US used, probe, technique of visualization. Did you record the final needle stimulating current before catheter insertion?

**Level of interest:** An article of insufficient interest to warrant publication in a scientific/medical journal

**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'