Author's response to reviews

Title: Loss of neuromonitoring signal during bilateral thyroidectomy: does it change the operative strategy?

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Author's response to reviews: see over
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Dear Editor,

Please find attached a revised version of our manuscript « Loss of neuromonitoring signal during bilateral thyroidectomy: does it change the operative strategy? ». We would like to thank the reviewers for their time reviewing the manuscript and their thoughtful comments. The changes are highlighted in yellow in the manuscript and below are point-by-point responses to the reviewer’s comments.

Reviewer Michael Herrmann:
1) The title promises an answer on the question "does it change strategy" or at least a new recommendation on data basis but does not deliver it; the title should be adapted including the term "questionary"

We agree with Dr Hermann and modified the title to reflect the results of this survey. « Loss of neuromonitoring signal during bilateral thyroidectomy: no systematic change in operative strategy according to a survey of the French Association of Endocrine Surgeons (AFCE) »

2) The reader would expect more information about the whole questionary in the method section; please add some more details

We have added the whole survey in French as an appendix (as the survey was done in French) and translated it into English. We have added this information in the Methods section, page 5, lines 20 - 21

3) 11 countries participated ...give us more details, which countries and how many clinics are included

We have included the origin of the participants in the manuscript, (page 6, lines 10-13)

4) The discussion should comment more on recent literature and recommendation, such that the reader learns more concerning "should we change strategy". As we know from politics, the majority is not always right

We have added a new paragraph to discuss this point in more details on page 10 line 22 to page 11 line 18.

5) 25 continued the operation (Abstract); but 10+16 continued the operation in the Paper - please adjust numbers in Abstract, Results and Discussion

We have modified the numbers in the result section (page 7, line 16-18), so that now all the numbers are correct in the abstract, Result, Discussion and Figures.

6) 66% is not "most" surgeons

We have modified this point

7) paralyzed vocal cord is not always medial

We agree with the reviewer on this point, and do mention in the introduction of the manuscript that broncho-aspiration, inefficient cough and constipation are potential complications of RLN palsy (page 3, line 2-9)

To make this point clearer for the reader, we have modified the sentences containing the word « medialization »
8) Discussion must not repeat the data of the result-section
We agree with Dr Hermann and have discarded the results from the discussion section, page 10.

9) The most important question would be to answer the fate and outcome of the patients with loss of signal and completing to total thyroidectomy; but I understand, that this is not the focus of the paper This is an excellent point. Unfortunately we could not obtain this data from this online questionnaire.

Quality of written English: Needs some language corrections before being published
The manuscript has been read and corrected by a native English speaker (all changes are highlighted in yellow)

Reviewer Kerstin Lorenz:

what type of surgeons and type as well as size of hospital are represented?
This is an important point and we agree with the reviewer that the surgeon’s specialty and hospital volume can influence outcome. Detailed information had been provided in the first version of this manuscript and we have added more details as requested by Dr Hermann as well (please see answer to question 3) above), page 6, lines 10 – page 7, line 6

were these ENT and/or general surgeons to what relation
10% of the surgeons were ENT specialists. This information was provided in the initial version.

how many thyroid cases do the respective surgeons and hospitals treat/year
We have provided this information on page 7, line 1-6 of the manuscript: « A majority of practitioners had performed over 1000 thyroidectomies to date (N= 41, 60%), between 500 and 1000 (N=10, 15%), between 100 to 500 (N=16, 24%) and a minority had practiced less than 100 (N=1, 1%). They practiced over 200 thyroidectomies per year (N=25, 35%), between 50 and 200 per year (N=35, 52%) and between 0 and 50 per year (N=9, 13%). Years of experience in thyroidectomy were on average 16 years (+ / - 9 years, range 1-37 years) ».

reference to use of intermittent vs. cont. IONM should be given
This is a very good point. However at the time of this survey (in 2012), there were very few users of continuous monitoring, and this particularly in France, where the introduction of IONM was very late compared to Germany for instance. We have clarified this point on page 5 line 18 and added a sentence in the discussion on page 12, lines 6-11. Further, we have added a new reference (ref 24) to strengthen the argument.

exact type of IONM usage of the respective participants should be specified: routine all cases; selective "difficult", only malignant etc.
When addressing this question in the survey, as we have mentioned in the manuscript on page 7, lines 9 to 15, we found that 22 % of the surgeons who use IONM used the device on a daily basis and 57% used the device in selective cases such as retrosternal goiters, Grave’s disease, oncologic resections or bilateral neck surgeries: “ Among IONM users (N= 46, 66%), some declared using the device on a daily basis (N=24, 34%) and others only occasionally (N=22,
32%). They used it during all operation (22%) during revision surgery (21%) or selectively for some indications (57%, oncological pathologies, bilateral thyroidectomy, Graves' disease, retrosternal goiters among others).

We have given this information in the previous version and we do not find useful to give the individual response of each surgeon; the relevance of these detailed information on the final result (do the surgeons change its strategy in case of LOS?) is very questionable.

definition of LOS for the survey must be stated

Thank you for this comment. We have not addressed this particular question in the survey and have not investigated each surgeon’s criteria for LOS. The main goal of this survey was to determine the strategy each surgeon adopts in case of LOS, independently from the definition of LOS used by individual surgeons. We have added sentences on page 12, line 9-11, to address and clarify this limitation.

how many of these LOS were correct and false? How often was algorithm to check LOS applied as advised in the intern. IONM guidelines?

We have not investigated this particular question, as it was not the aim of this current survey. A sentence has been added to the limitations, page 12 line 9-11.

line 8: what prognosis is involved?
The risk of death because of dyspnea.

- "signal" is insufficient in evaluation IONM and should, if applicable, be replaced by "EMG"; if this was not applied a decisively different interpretation of data will be necessary

In our manuscript, “signal” refers to the tone AND the curve given by the current IONM equipment as we have stated on page 3, line 18 of the manuscript; however, we have added « EMG » in this sentence for clarity as well as on the different pages with “signal”.

- the application of algorithms does not reduce false positive IONM but helps to identify them

We do not agree with Dr Lorenz; if the definition of false positive is a LOS in case of a functioning vocal cord, as mentioned page 4, line 3-5, then the application of algorithms can reduce this rate by recognizing and avoiding false positive cases. For instance, if the subcutaneous electrode has been displaced, the surgeon will get a LOS in the presence of good VC function and recognizing that it is due to the electrode displacement et replacing the electrode (and therefore having no LOS anymore) will reduce the rate of false positive LOS; so applying algorithms can reduce the number of false positive cases.

- line 13: most likely surgery on the mentioned side is not discontinued but the second side is not approached

We have clarified this point (page 4, line 9-11)

- conclusions (line 6-8) as outlined cannot be made from the nature of the data provided

We have modified this sentence (page 12, line 15)

We would like to thank you for the opportunity to revise our manuscript and look forward to hearing your decision.
Many thanks and best regards,
Frederic Triponez