Author's response to reviews

Title: Follow-up after surgery with ventilation tube in the tympanic membrane: Implementing guidelines in primary care and hospital. A retrospective study

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

Thank you for valuable feedback concerning our paper “Follow-up after surgery with ventilation tube in the tympanic membrane: Implementing guidelines in primary care and hospital. A retrospective study” (MS: 1210380865812924)

We appreciate that the reviewer has read our manuscript and found it interesting. We have carefully studied the comments made by the reviewers and are convinced this will improve the quality of the paper. How we handled the comments and edited the manuscript is attached below. We have also copy-edited the language carefully.

Sincerely yours,

Bjarne Austad
COMMENTS AND ANSWERS TO REVIEWER 1

Question 1

Was six months post-operatively the first time the patients were seen after VT insertion?

The first planned control by the GP was six months after surgery. But if there were any complications it is likely to think that they would contact their GP earlier. At the hospital this could vary. We have no data on when they actually met at the hospital and/or the GP. Our data is from the questionnaire about two years after surgery (so both the 6 and 18 months control should be included) and this gives us only answers were they actually went to control the VT. This is now clarified in the text, page 4.

How long were the tubes expected to remain functional?

There are different opinions about this, maybe 8-12 months or longer, but this will vary from child to child. The guideline recommended referral back to a specialist if the VTs were not rejected within 18 months. This is now included in page 4.

Were they expected to still be functional at the 6-month visit?

The tubes were expected to be functional at the six month control, although it is likely that not all tubes were functional at this time. However, this study is focusing on the process of adherence to guidelines, and not the function of the tubes.

Question 2

What complications were included? Did the instructions include when to return the patient to the specialist?

I have translated the guideline from Norwegian to English. This will answer these questions. See page 4 for manuscript changes.

Guideline for follow up after surgery with VT:

1. After initial insertion of ventilation tubes:
1.1 If normal hearing or minor hearing loss: Control by GP including otoscopy 6 and 18 months after surgery.
   → If clogged tubes → eardrops for two weeks → Control GP
   → Tubes not rejected after 18 months → Refer to ENT-specialist/outpatient clinic

1.2 If suspected/ unresolved hearing or hearing loss above 30dB HL: Control with audiogram at the Hearing Central two months after surgery, and if normal hearing then discharged and followed up by the GP.

2. After second insertion of ventilation tubes:
Control by a GP including otoscopy 6 and 18 months after surgery.

3. Children with medical syndromes:
Control at the outpatient clinic

Comment to section 1.2 in the guideline: According to the doctors at the ENT department this routine did not work in practice. This means that very few (most likely none) were actually transferred for follow-up by the GP after deciding another hearing test postoperatively. But we have no data about this, so we cannot be sure. Our data concerning plan for follow-up is from the decision made by the surgeon at the date of operation. This decided which group the children belonged to in the study, the GP group or the specialist health service group. To explore adherence to the guideline we think this is the most reasonable way to separate the groups.

**Question 3**
*Why was an audiologic evaluation done at the invited visit?*
Our paper is related to process within guideline implementation activity, and thus, the audiological outcome and complications were not assessed.

**Question 4**
*If the guidelines depended on hearing status prior to surgery (for those without a syndrome) and only half had an audiologic evaluation before surgery, how could the guidelines’ recommendation be determined?*
Two experienced audiologists went through all the patient journals. They wrote down the hearing tests prior to surgery. As correctly commented by the reviewer, about half
were not tested before surgery. Some of those classified as not tested were actually tested with informal hearing tests. But because of lack of quality in most of the test results (not enough frequencies) they were classified as “not tested”. We have now re-classified this into a subgroup and included the results from the informal hearing tests when at least three frequencies (0.5-1-2-4 kHz) are present. See page 6 and Table 1.

When a child was not hearing tested the audiologists tried to find any comments in the patient record about the hearing level (parents suspected hearing loss, surgeon suspected hearing loss etc). In some cases it was written in the patient record that there were no suspected hearing loss, but in most cases it was suspected a hearing loss. Some of them had medical syndromes, but most of them had not. Those not tested were in average younger than those tested. This is also edited into the manuscript, see Table 1.

According to the guideline those with suspected or unresolved hearing should have follow-ups by the specialist health service, see also our answer on question 3 for details.

**Question 5**
What were the reasons for being seen by specialist, even when assigned to the GP for follow-up?
The guideline includes one reason for referral back to the specialist (persisting tube), but as the reviewer mention there can be several other reasons for referral back. We have not data about why children were referred back, only if they have been referred back or not. This has been edited into the text at page 11.

**Question 6 and 7**
We have tried to include Table 1 in the text. However, to our opinion this attempt resulted a disproportionate amount of text on these details that is just to be regarded as background information and not results in relation to the aims of the paper; evaluation of process in relation to guideline implementation. As a consequence we will argue for keeping Table 1. It has been extended with some more data after the reviewers’ comments.
However, Table 5 has been transformed into text (page 9-10).
COMMENTS AND ANSWERS TO REVIEWER 2

A little more information of the actual state of the children operated
We have included some more information in Table 1: age at surgery, numbers with more than one VT surgery and specified those hearing tested with informal hearing tests.

How much was the hearing loss and how was the outcome?
The hearing loss on the worst ear prior to surgery is already included in the text. We chose to write only about the worst ear because this is what is most relevant in relation to guideline implementation.
Our paper is related to process within guideline implementation activity, and thus, the audiological outcome and complications were not assessed.

Was it only VT insertion or were some operated with tonsillectomy or adenoidectomy?
When we included patients we included all who underwent VT surgery in the actual period of time. It is likely that some underwent different surgeries at the same time, but we have no data about these operations.