Author's response to reviews

**Title:** Use of local anaesthetics and adjuncts for spinal and epidural anaesthesia and analgesia at German and Austrian University Hospitals: An online survey to assess current standard practice

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**Author's response to reviews:** see over
Dear ladies and gentlemen,

Dear Professor Benhamou,

in answering your last remarks in December I thought it would be sufficient to explain the relevant points to you, instead of rewriting the one or other passage in the manuscript. Therefore, in revising the manuscript I took into consideration your remarks, trying to change the relating points in the manuscript as shown below.

1. “For example, one of my first questions tries to understand who answered the questionnaire and how were the answers provided (intuitive knowledge of the responder or based on review from a local database). This is not answered.”

We understand your objections. Obviously, in English speaking countries (or in France) the system is not as rigid as it is at German speaking university hospital (as I mentioned in my last cover letter – see above). Therefore we changed the below mentioned paragraph (page 4) in order to show the reader the practice in German speaking university hospitals and consecutively underline the reliability of the presented data.

“With respect to the fact at German speaking university hospitals at least one person is responsible for the internal guidelines, the initial mail was directed to the department chairs indicating the purpose and method of the survey asking for forwarding the request to the responsible consultant for regional anaesthesia”.

2. “Moreover, the whole questionnaire asks questions related to the "preferred" technique in a given institution. I understand that given the structure of the questionnaire, the authors are unable to answer to this basic question but we still do not know which percentage of a given procedure is included in the response. This should however be acknowledged as a significant weakness.”
You are definitely right. In revealing a lack of a study after completion one should admit to this limitations in the manuscript. According to this we included the below mentioned paragraph (page: 12).

“Limitations of the study”

In focussing mainly on the preferred technique and used local anaesthetics we were unable to provide information concerning the distribution between general anaesthesia and the given types of regional anaesthesia or between emergency or scheduled operations, e.g. caesarean section. This remains to be evaluated in further surveys.”

3. We still do not know why only academic institutions were questioned. What percentage of surgical activity do these structures represent in Austria and Germany? Do these results reflect a large part of German and Austrian practice?

As stated last time above, university hospitals in German speaking countries play a leading role as teaching hospitals and according to the fact that the majority of anaesthesiologists in Germany spend at least a part of their specialist training at university hospitals, the data will indirectly reflect the majority of German hospitals.

Nevertheless, I understand the necessity of explaining this to the reader. Therefore we included the following passage on page 4.

“As the majority of German speaking anaesthesiologists spend at least one part of their specialist training at university hospitals and therefore are reflected by the approach of university hospitals, we contacted the 36 German and 3 Austrian university affiliated European anaesthesia departments via e-mail.”

4. Results (top of page 6): the sentence indicating that 33 out 39 hospitals represent 15% is wrong and should be modified.

Page 5, line 22: 15% has been corrected (85%).

5. In the Discussion section, the change in the sentence regarding bupivacaine toxicity remains flawed. Indeed, the main drawback of bupivacaine (or of ropivacaine) administered spinaly is not cardiac toxicity: the main problem is sympathetic blockade and the ensuing risk of hypotension. Cardiac stability should thus evoke the problem of hypotension, not of cardiotoxicity. The sentence should be rephrased.

The original paragraph:

„The frequent use bupivacaine as local anaesthetic in urology and gynaecology is striking, since especially in those subspecialities, a high percentage of the patients are older aged with a considerable prevalence of cardio-circulatory disorders. In those patients the need for cardiovascular stability may be extremely important and a well known side effect of large doses of local anaesthetics is the negative influence on cardiocirculatory parameters13. Interestingly, the majority of the replying clinics use bupivacaine 0.5%, even though several studies indicate the superiority of ropivacaine. Even though the reduced cardiovascular toxicity of ropivacaine has hardly been proved in randomised clinical trials[14;15], animal studies give evidence of its preponderance with respect to cardiac stability14;15. Furthermore there is some evidence that ropivacaine blocks sensory nerves to a greater extend than motor nerves, which has also been confirmed in a clinical trial in urological surgery16.

The knowledge that the addition of opioids allows a reduction of local anaesthetics and consequently leads to a lower incidence of cardiovascular side effects17-19 is reflected also by the results of this survey.“

has been changed and rephrased to:
"The frequent use of plain bupivacaine as local anesthetic in urology and gynaecology is striking, since especially in those subspecialties, a high percentage of the patients are older aged with a considerable prevalence of cardio-circulatory disorders. In those patients the need for cardiovascular stability may be extremely important and a well known side effect of large doses of local anaesthetics is the negative influence on cardiocirculatory parameters, mainly vasodilatation due to sympathicolysis. The common knowledge that the addition of opioids allows a reduction of local anaesthetics and consequently leads to a lower incidence of cardiovascular side effects is only partly reflected by the results of this survey, where the overwhelming majority uses plain bupivacaine in short gynecological and urological operations."

6. Tables remain hard to read and lack synthesis

Unfortunately we don’t agree with you concerning the tables. If you had provided further information with respect to what kind of changes you want us to carry out, we would have appreciated to do so.

7. Ref 17 refers to an article which is not a major study on ropivacaine cardiac toxicity. Please use a more easily available paper.

See number 5. The whole paragraph has been rephrased.

8. Ref 28 and 30 describe the same article. References have been corrected.

I hope we were able to improve the paper, taking your remarks into consideration and changing the corresponding paragraphs in order to make the information available to the reader. In doing so, the reader should now be able to understand who responded to the online survey, why only university hospitals were chosen. Furthermore, the “percentage mistake” as well as the doubled reference is corrected.

Looking forward to hearing from you!

Yours sincerely

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