Author's response to reviews

Title: Predictors of early transition to palliative level of care among middle cerebral artery ischemic stroke patients and the influence of swallowing dysfunction: a retrospective cohort study

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Dear Dr. Seymour,

We would like to thank the reviewers for their very thorough evaluation of our manuscript titled “Predictors of early transition to palliative level of care among middle cerebral artery ischemic stroke patients and the influence of swallowing dysfunction: a retrospective cohort study”. The two reviewers were enthusiastic and thought the manuscript would be of interest to providers in the palliative care field. Both reviewers suggested revisions as outlined below, we feel that these revisions have significantly improved the manuscript (highlighted in red in the revision). We have emphasized the limitations of this work (primarily its retrospective nature and our lack of details of the specific discussion points that occurred during individual family meetings), but we feel this work will raise awareness of the need to discuss issues of nutrition and PEG placement with families early in the hospital course. To better define which patients will develop aspiration or require permanent PEG placement (perhaps by swallowing studies, but perhaps by using other factors) will be the ultimate goal. To begin these sorts of studies, retrospective analysis of existing patients can be of great use to define variables to assess prospectively which is our next step in this work. To make certain that we followed the journal’s format, we also utilized the template directly from your website. We thank you for your comments and have addressed them sequentially below. The manuscript has been edited accordingly.

Thank you for your time,

Dr. San Luis and McCullough

Reviewer 1:

Major essential revisions

1. *This is a retrospective analysis of data but some of the text is written in a way that suggests it is a prospective study*

   Thank you, we have tried to make it clear throughout the manuscript and now emphasize in the introduction and discussion that this was a retrospective study on previously collected demographic and outcome measures.

2. *The primary outcome measure needs to be stated clearly in the abstract and earlier in the methods.*

   The primary outcome measure is the transition to palliative level of care. This is now clearly stated in both the abstract and the revised methods.
3. *The definition of ‘early transition to palliative level of care’ is needed.*
   This has now been added to the methods.

4. *It is unclear from the retrospective analysis how decisions to transition to palliative care or for patients to be included in this cohort had been reached. Was there a pre-existing formula in use at the time patients were treated to determine their management, if so this needs to be stated? The management patients did or did not receive, depending on whether they were transitioned to palliative care is unclear. Were the patients with poor swallow offered artificial feeding or was this withheld?*

   This is a very interesting point. We did not use a pre-specified “formula”, as the reviewer notes this is a retrospective study. We included all patients with an acute MCA stroke that had dysphagia (as defined by failure of first swallow or inability to be assessed for a swallow evaluation). All patients are offered artificial feeding (which begins by NGT almost immediately in all patients), although there is certainly some bias on the physicians part if the stroke is severe or the patient is moribund to perhaps suggest the possibility of futile care, but patient’s families are offered the option of PEG placement. We do not have specific information regarding whether patients were subsequently offered “food for pleasure” when they transition to palliative care. This is listed in the palliative care order sets. However, this was not tracked or recorded.

5. *As this is a retrospective analysis of the records, the second sentence in results should reflect this in a change of tense to read, ‘79 patients who had transitioned to early palliative care had failed the first swallow evaluation or were unable to be formally assessed for dysphagia’. Change of tense throughout 2nd paragraph of results is required. ‘the majority of those patients who had been able to undergo first swallow evaluation and who were transitioned to early palliative care.............majority of those who had not been transitioned.....’*

   Thank you for pointing this out, the manuscript has been edited accordingly.
6. There is a mixture of use of numbers and percentages in the results. Use numbers with percentages in parentheses throughout rather than using only percentages in some of the results reporting.

Thank you; this has been corrected in the revision.

7. There is an error in figure 1 as the total of patients included and excluded is 448 whereas patients assessed for eligibility are listed as 447 patients.

We apologize for the error, Figure 1 has been corrected.

8. List of reasons for patient’s exclusions adds to 211 patients not 212 as stated.

One of the patients was on the non-stroke (Medicine) service, and was excluded as the process of transitions of care and family discussion may differ considerably. This has been corrected in the revision.

**Minor essential revisions**

1. Background – it is not clear what is meant by reported 5 year rate of 40% (is this death rate?)

Sorry, this is survival rate, this has now been clarified.

2. PEG, should be written in full followed by the abbreviation in brackets (PEG)

This has now been spelled out on first use, the abbreviated as “PEG”.

3. There is a typo on page 4, 7th line.

This has been corrected

4. There is variation is using dysphagia and swallowing dysfunction, consistency in terminology would be better.

In the revision dysphagia is now consistently used and swallowing dysfunction has been removed.

5. Methods- Page 6, the words’ were also excluded’ need adding to the end of first sentence.

This has been corrected.
6. It is not clear what criteria were used to classify dysphagia as mild, moderate or severe.

Thank you, this is an important point. Hartford Hospital has a dysphagia protocol and definitions of each “classification”. This is now added as an appendix/supplementary file.

7. Delete the sentences: ‘in patients with acute MCA stroke with associated swallowing impairment any information that may help in decision making is essential. In this study we assessed the influence of swallowing function on palliative care decision making.’ This does not add to the subsequent 2 sentences which then need expanding to state that MCA stroke patients are considered.

These sentences have been deleted.

8. Inconsistency in using MCA abbreviation later in this section.

Thank you this has been corrected.

Discretionary Revisions

1. It would add to the study if outcomes were listed for patients who transitioned to early palliative care and those not transitioned, i.e. what was the time from diagnosis to death for each group, does this correlate with swallowing dysfunction?

This is a very interesting idea. Unfortunately as not all patients transitioned to hospice remain on our palliative care service (often for family preference), therefore we do not have time of death for all patients in our data base, and there may be considerable bias if the patients were treated at different sites. However, in a future study, we will look at this in the patients that remain at HH as the number of patients increase.

2. In the light of the above a more appropriate title might be 'Swallowing dysfunction as a predictor of outcome among middle cerebral artery ischaemic stroke patients.'

The title has been changed (but the term dysphagia was used for consistency) thank you.
3. Exclusions would be clearer if classed as from time of first symptom/last seen normal, rather than from admission i.e. patients whose swallow assessment was delayed beyond 3 days from first symptom or who failed the initial swallow assessment.

This is a good point, but as we excluded patients that had delayed admission, this factor is likely less important.

Reviewer 2:
Reviewer 2 also found the paper to be interesting, well written, and statistically sound. R2 suggested some minor revisions which are addressed below.

Major Revisions:
Some points require clarification.

Early transition of care and decision making process have now been clarified (also see R1 comment 3).

Minor Revisions
1. Since the authors specifically selected patients with MCA infarcts and swallowing dysfunction and excluded patients with MCA infarcts without swallowing dysfunction, care should be taken not to imply that swallowing dysfunction per se (as opposed to the severity of dysphagia) was associated with transition to palliative care. One example of this is the first sentence of the conclusion in the Abstract.

Thank you, this is a good point. We did show that majority of the patients who were able to participate in the first swallow evaluation but were then transitioned to palliative level of care had moderate to severe dysphagia (rather than “mild” dysphagia). This has been revised accordingly.

2. Given the issues raised in the Discussion relating to the practice style on the stroke service with respect to weekend/weekday coverage, it is important to discuss the logistics of the stroke service in the Methods. Points to be addressed include who typically performs family discussion on this topic, i.e., the stroke attending vs. the palliative care consultant
Thank you for this recommendation. We have added a separate section in the Methods to describe how our stroke service addresses goals of care with families. We also described the involvement of our palliative care service. It is an interesting point to consider having “standardized” protocols for both when to consult palliative care, and what issues should be covered in family meetings, something we will consider developing in the future.

Discretionary revisions

1. *If possible, it would be interesting and informative to review the records of family meetings to determine whether discussion of feeding/need for PEG in fact played a role in the palliative care decision making.*

This is a good point. Unfortunately, due to the variability of documentation styles of the different attendings, specific documentation of what points were discussed during individual family meetings is lacking. However, with the increasing role of palliative care in our stroke population, we believe that we are headed in the direction of having a formal documentation “protocol” for family meetings involving goals of care so that moving forward, we would be able to review the specific points discussed.