Delirium: What is the impact on treatment following stroke and how can we predict it?

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Background & Objectives

Background:

• Delirium is a neglected, yet common, complication of stroke.

• While there is clear evidence that delirium negatively impacts mortality and morbidity in stroke survivors, it is unknown how it affects participation in Allied Health, which are aimed at regaining and improving functional ability following a stroke.

Aims:

1. To undertake a literature review to determine the impact of delirium on participation in allied health interventions.

2. To conduct an external validation of a delirium prediction tool (DPT) in an acute stroke population as developed by Oldenbeuving et al. \(^{(1)}\)
Literature Review

Study design:

• Systematic review of the impact of delirium on post-stroke rehabilitation initially undertaken
• Due to a lack of publications in this population, the search was expanded to include all admission types.

Results:

• The literature review identified two articles that both suggested that delirium negatively impacts participation in allied health interventions. (2,3)

Where to from here?

• The literature review has identified an area of need for further research, to improve our understanding of the interplay between a common complication and a key management aspect following acute stroke.
• This review was presented at the European Stroke Organisation Conference held in Gothenburg, Sweden in May 2018. (4)
• The review has been submitted and is currently awaiting review for publication in Neuroepidemiology
Literature Review

Study design:

• External validation of the study conducted by Oldenbeuving et al (2014).
• Currently being conducted at Ballarat Health Services and Austin Health
• Aims to involve Royal Melbourne Hospital and St Vincent’s Hospital in the coming months

Results:

• The clinical study has so far only been running for a few months
• Too early in the process to have statistically significant results

Where to from here?

• If the prediction tool is found to reliably predict risk of delirium, it could be incorporated into standard stroke care, allowing for interventions to minimise the risk and impact of delirium.
A systematic review of stroke, delirium & allied health interventions: AN EXERCISE IN FUTILITY!

Background
Delirium is a neglected complication of stroke, affecting 10-48% of acute stroke patients. It manifests clinically as a fluctuation in the level of consciousness and poor attention. There is clear evidence that delirium negatively impacts mortality and morbidity in stroke survivors. In contrast to this, Allied Health interventions, a mainstay of acute post-stroke care, help to regain and improve functional ability following a stroke. We conducted a systematic review of available literature. We sought to determine the influence, if any, of delirium on the ability of stroke patients to participate in allied health interventions and the impact this might have on recovery.

Methods
We initially planned a systematic review to determine the impact of delirium on post-stroke rehabilitation. However, there was a surprising lack of published research. We then expanded our search to include studies that assessed the impact of delirium on rehabilitation irrespective of the underlying diagnosis. The result of our search is shown in the figure below.

Results
Only two papers out of 1594 returned in our systematic search of the literature addressed the impact of delirium on participation in allied health interventions. One of these was a case report and the other an ICU based study. Both reported a significant reduction in participation in allied health interventions in delirious patients.

A number of studies explored the impact of delirium on patient outcomes such as mortality and morbidity, but there were no articles, other than the two mentioned, that dealt specifically with the effect of delirium on participation in allied health interventions. There is no published research that specifically addresses the impact of delirium on post-stroke rehabilitation.

Discussion
Our review highlights a significant lack of research regarding the impact of delirium on the ability to participate in allied health interventions. Of particular importance is the lack of research amongst stroke patients. Intuitively, we would assume that delirium negatively impacts participation in any form of therapy and the result of our review supports this, albeit weakly. Considering that allied health interventions are a key part of standard care, there is a need for clear evidence either way. The field of stroke care is long overdue for a well designed prospective study which looks specifically at the impact of delirium on a stroke patient’s ability to participate across all aspects of allied health interventions.

The impetus for such research would include the significant cost of stroke and delirium, the importance of allied health interventions to a patient’s overall recovery and the potential benefit to patients, carers and health systems.

References

Thank You!