Reviewer's report

Title: Succinylcholine's impact on malignant hyperthermia

Version: 2  Date: 5 January 2014

Reviewer: Barbara Brandom

Reviewer's report:

DISCRETIONARY REVISION

1) Title: The title would be more accurate if it were, “The effect of succinylcholine on malignant hyperthermia events in susceptible swine”

MINOR ESSENTIAL REVISION

1) Abstract, Background and Title of Tables 1 & 2 & 3 & 4: The word ‘trigger’ is slang. Please remove every phrase in which ‘trigger’ appears or replace ‘trigger’ with another word that is NOT always associated with MH. The use of ‘trigger’ introduces the bias that the drugs discussed must be able to elicit acute MH episodes in genetically susceptible individuals. There is much uncertainty about all the factors that contribute to the production of an event of acute potentially life threatening MH.

2) Materials and Methods, 3rd paragraph, 1st sentence: Please replace “in 15 minutes intervals” with “at intervals of 15 minutes”.

MAJOR COMPLUSORY REVISION

Statistical analysis: Because there are repeated measurements in subjects exposed to either halothane or succinylcholine, a more appropriate statistical analysis is repeated measures analysis of variance (ANoVA) with factors for halothane and succinylcholine. Performing ANoVA removes the criticism that a correction, such as the Bonferroni correction, must be applied to the p value for each t-test. The repeated measures ANoVA is the most powerful method for identifying a difference over time, and then also between treatment groups. When ANoVA identifies a statistically significant difference, then one of a number of multiple range tests may be applied to identify the significant differences between subgroups. There are acceptable multiple range tests that are not as conservative as the Bonferroni.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I could have competing interests because I have written both case reports and analyses of cohorts of humans with MH, and I am currently the Director of the North American Malignant Hyperthermia Registry which has been supported by the Malignant Hyperthermia Association of the United States.