Reviewer's report

Title: Synuclein Gamma Predicts Poor Clinical Outcome in Colon Cancer with Normal Levels of Carcinoembryonic Antigen

Version: 2 Date: 5 October 2009

Reviewer: Susan N Thomas

Reviewer's report:

This manuscript describes the correlation of Synuclein gamma (SNCG) expression in cancer tissues from colon adenocarcinoma patients with clinical outcome, clinicopathologic features and preoperative serum CEA levels. SNCG levels in the colon cancer tissues were measured immunohistochemically in sections from patients. The authors describe SNCG as a significant indicator of intravascular embolus and tumor recurrence.

This work clearly demonstrates the utility of assessing SNCG expression in immunohistochemical sections of excised colon tumors to predict survival and tumor recurrence to improve current diagnostic techniques. I have a few minor points outlined below.

Discretionary Revisions:

1. The authors should specifically address the frequency, rate of DFS, and OS of SNCG negative patients that are CEA positive. This will give insight to the readers as to how useful SNCG expression is to improving current diagnostic methods (CEA positive versus negative) versus improving diagnostic tests for patients who have normal CEA levels.

Minor Essential Revisions:

Most of these points address grammatical errors in the text that should be improved before publication.

2. para. 1 of Background section - "Traditionally, TNM stage is the..." The word system should be removed from this sentence.

3. para. 1 of Background section "...but accurate classification of intermediate-stage cases is imprecise and prognosis varies greatly in CRC patients even in the same stage." It is unclear why the authors are making this point since this paragraph is motivating the

4. para. 1 of Background section - Correct the grammar. "Approximately 30% of all CRC recurrences..."

5. para. 3 of Background section - Correct the grammar. "However, the prognostic significance of SNCG in other cancers remains unknown.."
6. para. 3 of Background section - The authors need to be more specific as to how SNCG can be used prognostically. In particular, the authors are comparing SNCG levels as assessed by immunohistochemistry of tumor sections with serum CEA levels for their prognostic value. The current manner in which these points are described may be confusing to the reader. For example, "In the current study, we investigated whether SNCG expression levels as assessed by immunohistochemical analysis of excised tumor sections could be a useful prognostic marker for colon cancer patients and particularly for those with normal preoperative serum CEA level."

7. para. 3 of Background section - The last sentence of this paragraph needs to be clarified.

8. The authors should comment on what is considered positive versus negative CEA levels and how that compares with the cut off they used in their analysis.

9. Section title 1 of Results section - grammar should be improved.

10. para. 2, section 1, results - Correct the grammar. "Interestingly, in contrast to previous observations of an association between SNCG expression and tumor stage..."

11. para. 2, section 1, results - Correct the grammar. "Expression of SNCG in primary tumors (p=0.023) was..."

12. para. 2, section 1, results - Correct the grammar. "There were 61 patients that developed tumor recurrence during the follow-up period."

13. para. 2, section 1, results - Correct the grammar. "While 37% patients with SNCG positive primary tumor developed recurrence, only 22% patients with SNCG negative tumors developed recurrence (P = 0.02)."

14. Section title 2 of Results section - grammar should be improved.

15. Throughout, "in SNCG negative group" should be written as "in the SNCG negative group" and likewise for the SNCG positive group.

16. para. 1 section 3, results - Correct the grammar. "whether a combination of SNCG and CEA."

17. para. 1, section 3, results - The last sentence of this paragraph needs to be corrected to be grammatically correct.

18. para. 2, section 3, results - Correct the grammar. "Figure 2 illustrates..."

19. para. 2, section 3, results - The grammar of this paragraph needs to be improved.

20. The grammar of the title of Table 2 needs to be corrected.

**Level of interest:** An article whose findings are important to those with closely
related research interests

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

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests.