Reviewer's report

Title: Alpha-1-antitrypsin serum levels and protease inhibitor phenotypes distribution. Case-control study in colorectal-cancer patients

Version: 4 Date: 17 March 2014

Reviewer: Sabina Janciauskiene

Reviewer's report:

1. Is the question posed by the authors well defined? Yes
2. Are the methods appropriate and well described? Yes
3. Are the data sound? Good
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes
5. Are the discussion and conclusions well balanced and adequately supported by the data? No
6. Are limitations of the work clearly stated? Yes
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes
8. Do the title and abstract accurately convey what has been found? No
9. Is the writing acceptable? Yes

Specific Comments

I would ask to modify the title: “Alpha-1-Antitrypsin Serum Levels and Phenotypes Distribution. Case-Control Study in Colorectal-Cancer Patients”

Authors claim that the findings of this study do not support the hypothesis that AAT deficiency might be significantly involved in CRC development and progression. However, samples size is very small to make this conclusion. It would be of interest to correlated disease severity with AAT levels but not with phenotype of AAT.

Discussion

The first paragraph is repeated like in the introduction.

For the start of discussion would be better sentence from page 11, “The only statistically significant finding in this study was the markedly higher AAT serum concentrations in CRC subjects compared to HUP controls, regardless of their Pi phenotype were normal (MM) or deficient (MS, MZ and SZ)” Authors shell focus on the findings and significance. I recommend totally rework Discussion section. Please include additional reference regarding CRC and AAT.