Reviewer's report

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

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Reviewer: Charles Rosser

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It is with great pleasure that I reviewed the article entitled 'alpha-1-antitrypsin serum levels and protease inhibitor phenotypes distribution: Case-Control Study in colorectal cancer patients' by Perez-Holanda. In the manuscript the authors set out to correlate alpha-1-antitrypsin (AAT) deficiency with colorectal cancer patients (n=267) vs. control (n=327). Serum samples are monitored then allelic frequencies of AAT were noted. There was no difference in allelic distribution, but CRC patients did have higher serum levels of AAT, thus the hypothesis that AAT deficiency might be involved with CRC development and progression could not be confirmed. Overall this is a well written, well organize study. Below is a point-by-point critique of the manuscript.

TITLES: No issues.

ABSTRACT: In result section change to Pi*S nor Pi*Z.

INTRODUCTIONS: No issues

MATERIALS AND METHODS: No issues. It is speculated that AAT comes from acute phase response but it could come from the tumor. Have you considered performing IHC for AAT to document expression (or even overexpression in tumor).

RESULTS: No issues

DISCUSSION: So AAT is extremely high in the blood. It is good (and encouraging to see) that CRC can further increase AAT levels over its ‘high background’. Could AAT levels be correlated with stage? Outcomes?

REFERENCES: No issues

TABLES: Perhaps reformat tables as that they are wider and thus have less less. This may make it easier to read.

FIGURES: N/A

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable

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