Reviewer’s report

Title: The Association of Serum Lipids with the Histological Pattern of Rectosigmoid Adenoma in Taiwanese Adults

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Reviewer: Patricia Thompson

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Review manuscript titled "The Association of Serum Lipids with the histological patterns of rectosigmoid adenoma in Taiwanese Adults" Sun et al.

The manuscript is very well written and focused on the relationship between serum lipid levels and histologic features of rectosigmoid adenomas at detection using data from 2506 otherwise healthy screened individuals. The investigators show a strong independent association between serum triglyceride levels and adenoma with villous histology even after accounting for obesity and diabetes determined by fasting glucose tolerance testing. The study is well conducted and adds knowledge to the field.

Minor Essential Revisions. The one concern that I think the authors really need to address to make this a higher impact paper is the issue of age. Clearly, the no adenoma group is considerably younger. Age is both a major risk factor for adenoma and elevated serum lipids. The authors have adjusted for age as a confounder, which is appropriate. However it would be informative to evaluate the relationship between TG and adenoma by age strata and also by gender. While the study may be underpowered for the more advanced histology, results of stratified analyses, even if exploratory in nature, would be informative as it is unclear if these relationships are present in younger individuals or restricted to older populations. This would help to inform on when interventions targeting TGs or other serum lipids would make sense.

Discretionary Revisions

The data suggest the primary factor of interest is TG and not 'insulin' related features. The discussion might benefit from focus around those factors that are mechanistically related to TGs such as increased fecal bile acid content and effects on the colonic environment including effects on gut flora. This would also slightly shorten a fairly long discussion text.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

'I declare that I have no competing interests'