

Reviewer 1

1. "Table3 The number of patients recorded about family history of CRC in a first degree relative was too small. The data did not reflect the patient's background and should be excluded from analysis"

Response: Family history was excluded in the revised Table 1. The statement "Family history of a first-degree relative of CRC was not included in the analysis because of incomplete documentation in the EMR" was included in the Methods section in the revised manuscript.

2. There was a significant increased risk of adenomas in T2DM than control group. However, there was no significant difference in the rate of advanced adenoma and high-risk adenoma that may be more associated with CRC. Please discuss this result.

Response: Please see our response to Reviewer 2 critique #2.

3. The NoDM patients were classified as PreDM and control, and ADR was significantly higher in T2DM than control. Please show the results of T2DM vs PreDM and PreDM vs control.

Response: As requested, we have added two additional tables (Tables 5 and 6 in the revised manuscript) to show the results of T2DM vs PreDM and PreDM vs control. We have added the statement that no significant differences were observed in either the univariate comparisons of T2DM vs. PreDM groups or the univariate comparisons of PreDM vs. No DM group in the Kings County data in both the Results section and the Discussion section.

4. The findings of Table6 and Table7 were the results from combined data set. Because that were data combined from different institution and physician, it should be added as limitation that there was a selection bias.

Response: Note physician and institution were included in the GLMM as random effects. However we did include a more detailed discussion of the limitation of collecting data from only two institutions. "This retrospective cohort study is subject to several limitations. Family history of a first degree relative with CRC in the EMR was not included in the analysis because of incomplete documentation. Detection of this deficiency has prompted adoption of a family history intervention [21] at both institutions, which will hopefully result in increased uptake of CRC screening, particularly in the underserved Black/AA population. Another limitation is that only two institutions are included. The lack of a racial effect on ADR observed in this study may not be applicable to other Black/AA populations in the US, since a substantial proportion of the population served by the urban public hospital in this study is Afro-Caribbean [22]. " was included in the discussion in the revised manuscript. So far we have only completed curation of data from two institutions because the process of obtaining permission to access each institutional EMR is highly regulated in the US where healthcare is very fragmented compared to many European and Asian countries. The data we present in this manuscript required manual curation of the EMRs. Collection of this data has provided

valuable QI/QA data to each institution and has been responsible making improvements in clinical practice related to diabetes and CRC screening at both hospitals.

Reviewer 2

The authors investigated the background of patient with colorectal adenoma diagnosed with colonoscopy. They found out that type 2 diabetes (T2DM) correlated with colorectal adenoma. The study population was rationale because it was from screening colonoscopy, and free from bias due to abdominal diseases with symptoms.

1. One major problem was that age cofounded the results. As age grows, number of patients with T2DM increases. At the same time, the number of patients with colorectal adenoma increases. How would the authors control this phenomenon?

Response: "In order to control for multiple confounding variables, the following variables were included as fixed effects in the GLMM in addition to diabetes status: 1.) age, 2.) sex, 3.) race, 4.)BMI, 5.) smoking status, insurance status and aspirin use (see **Table 8**). Institution and colonoscopists were included in the GLMM as random effects. Patient age was restricted in this study to ≥ 45 y and ≤ 75 y, based on recent recommendations for initiating CRC screening in the US. The GI societies currently recommend initiation of average risk CRC screening in Black/AA individuals at age 45, five years earlier than the general population [23]. More recently, the American Cancer Society has recommended that initiation of CRC screening be lowered universally to age 45, because of rising incidences of early onset CRC in other races [24]." *was included in the Discussion section of the revised manuscript to more clearly explain how we controlled for age and other confounding variables.*

2. Table 5. All colonic neoplastic lesions had strongest significance. But adenoma only showed less significance. Lesions other than adenoma showed no significance. All colonic neoplastic lesions contain adenoma and the other lesions. Therefore, all colonic neoplastic lesion should have shown less significance as compared with adenoma only. How would the authors address this potential problem?

Response: "The number of advanced adenoma events was too low in this study to detect a significant difference between T2DM advanced adenoma detection rate (AADR, 5.5%) vs. the Control AADR (3.5%). The marginal p value (0.053) suggests that increasing the sample size would likely result in detection of a significant effect of T2DM on AADR."*was included in the Results section to address Reviewer's 2 concerns in the revised manuscript.* "The number of events related to AADR was too low to detect a significant difference between the T2DM group and the Control group in this study, but the marginal p-value (0.053) suggests that a significant effect could be observed with increased sampling of these two populations under conditions where the ADR reached national benchmark levels

at both institutions.” was included in the Discussion section to address these concerns in the revised manuscript.

3. Table 7. Age, BMI, Sex, and smoking had stronger significance as compared with T2DM. The title of this manuscript features diabetes. How did the authors choose T2DM?

Response: We chose to feature type 2 diabetes because while the other factors, age, bmi, sex and smoking have been strongly established as significant risks for CRC, one of the very few (possibly only) previous publications on the effect of Type 2 DM in a Black/AA predominant population on adenoma risk, reported that no significant effect of type 2 DM was observed Black/AA women. The introduction was revised to emphasize this point more clearly: “Type 2 diabetes mellitus (T2DM) has been reported to increase risk of adenoma, which represents a benign neoplastic precursor to CRC, in predominantly White/EA populations [12]. But there is a paucity of data reported on the effect of T2DM on adenoma risk in Black/AA individuals. Because a nested case-control study using data from the Black Women’s Health Study failed to detect a significant effect, it is less clear whether an association of T2DM with increased adenoma risk is also present in Black/AA populations [13].”

4. Abstract. ADR should be spelled out when it first appeared.

Response: We have revised the abstract accordingly.