Reviewer's report

Title: MDR1 polymorphisms are associated with inflammatory bowel disease in a cohort of Croatian IBD patients

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Reviewer: DEVENDRA K AMRE

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The article investigates the role of coding SNPs in the MDR1 gene and risk for IBD in an adult population in Croatia. It being based in an ethically different population is its strength. It does however has the same limitations as the previous studies that the sample sizes were modest. As such either the positive or negative findings will need further corroboration.

Major comments

1. As the frequency of the A allele of 2677 was low any related analysis should be excluded from Table 3.

2. Given the limited sample size, the genotype-phenotype analysis should be excluded, not withstanding the somewhat negative associations between perianal disease in CD. These analysis only enhance the issue of multiple comparisons and encourage misleading interpretation.

3. The authors indicate that the T allele frequency of 2677 in their controls was among the lowest (35.8% in the text and 35.2% in Table 3..discrepancy probably relates to the fact that 35.8% is after exclusion of individual with the A allele..need to confirm). It would be important to know the source of their controls (no details currently provided) and how these frequencies relate to ethnically similar populations. For example, are the Croats ethnically close to the Hungarians or Slovenians? If so, I believe there have been studies carried out in these populations for MDR1 and IBD (The Potocnik et al, study for example) and a comparable allele freqs within these populations, would provide greater assurance on the representativeness of the current study's control population. The authors can consider pooling the results of the Potocnik study with their study using the raw allele frequencies.

Minor comments

1. The significant p-values can be consistently highlighted in bold in the tables.

2. The authors can consider summarizing the findings of previous studies relating to the 2 MDR1 SNPs in a Table to allow comparability.

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