Reviewer’s report

Title: The rs1803274 polymorphism of the BCHE gene is associated with an increased risk of coronary in-stent restenosis

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Reviewer: TERESA VILLARREAL-MOLINA

Reviewer’s report:

The manuscript submitted by Pleva et al. describes a case-control study analyzing whether a total of 12 SNVs in 10 genes are associated with coronary in-stent restenosis (ISR). SNV selection was based on previous associations with ISR in Japanese and North American populations or previous associations with repeated stenosis. The authors also selected a number of SNVs associated with metabolic disorders, presenting evidence on why they considered them worthy of testing for associations with ISR. Only one of these SNVs (in gene BCHE) was significantly associated with ISR in their population.

The objective is clear, and the methods are appropriate. The data and statistical analysis seem sound, and the writing is reasonably clear.

The authors present data worthy of publishing, however some minor issues should be addressed before publication.

Essential Revisions:

1) Abstract is missing.

2) Minor allele frequencies in cases and controls are not reported. Tables 3 and can be summarized in a single table, but minor allele frequencies must be included, described in the text (results section) and compared with previously reported MAFs. Perhaps the risk allele frequencies are higher in the restenosis group and similar to previous reports, but do not reach statistical significance because of the reduced sample size.

3) The authors state that total and LDL-cholesterol were significantly higher in the control group. There is no discussion on what this might mean.

Minor Revisions:

There are some minor language issues, some inappropriately used terms and minor typos in References.

1) Page 4, line 93, Introduction section. In a strict statistical sense, the use of the term correlations is inappropriate to assess categorical variables. “to assess associations” would be more appropriate.
2) Page 8, line 173. Tables should be indicated with arabic numbers. Change Table III to Table 3.

3) Page 10, lines 223-224. Should read “the rs1050450 polymorphism (singular, not plural) of the GPX -1 gene has been associated….”

4) Page 10, lines 230-234: The authors are citing the study of Shah et al., and describe the association of two 4-SNP haplotypes. The rs17216473 SNP was significantly associated with ISR. Whether the risk allele was on haplotype A or B is irrelevant. The authors should state which allele (A,T,C or G) was the risk allele associated with ISR.

5) Page 11, lines 260-262: The authors are citing Monraats et al. Again, whether VDR SNVs are on LD block 4 or 5 is irrelevant. It is important to know which allele confers risk for restenosis.

6) Page 12, Lines 280-282: “both patient’s cohorts” should read: “both patient cohorts; …”to confirm stents patency” should read: “to confirm stent patency”.

7) Check minor typos in some references (ref 5 PLOS ONE, ref 18, initials of Verschuren).

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

Quality of written English: Needs some language corrections before being published

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.