Reviewer's report

Title: Genetic study of common variants at the Apo E, Apo AI, Apo CIII, Apo B, LP(a), lipoprotein lipase (LPL) and hepatic lipase (LIPC) genes and coronary artery disease (CAD): variation in LIPC gene associates with clinical outcomes in patients with established CAD

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Version: 1 Date: 25 Jul 2003

Reviewer: Xing Li Wang

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Unable to decide on acceptance or rejection until the authors have responded to the compulsory revisions

Baroni and colleagues presented genetic associations between polymorphisms in apo AI, CII, B and E, LPL and HL, and CAD in a case-control study. In a small subset of the patient population (N = 60), they further reported the relationships between these genotypes and various clinical events including CABG, 2nd PTCA and death. Whilst the data are presented well and paper is clearly written, I have several concerns for authors to consider.

1. There have been hundreds of papers published over last decade on the associations between these polymorphisms and vascular disease. As we would expect, results derived from these association studies have been very inconsistent. Although association study has its unique in dissect genetic associations, they will have to follow strictly good practice of study design. Among many criteria, the appropriate size of the study population would be critical. Comparing with published studies on the same genes, the number of patients and controls in Baroni et al's paper are relatively small. Although they did talk about the power calculation, sometimes these posthoc power estimations does not reflect the true power of the study. The results of the current paper in the case-control portion is also not new.
2. The follow-up of 60 patients for 8 years is of value. However, the mixed clinical phenotypes damp the entusiasms. I am not sure how we can lump the CABG, 2nd PTCA and death together. Some explanations are needed.
3. A minor point: I think authors should make clear in the abstract that the follow up study was conducted only among 60 patients.

Competing interests:

None declared.