Reviewer’s report

Title: Impact of newly diagnosed abnormal glucose regulation on long-term prognosis in low risk patients with ST-elevation myocardial infarction: a follow-up study.

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Reviewer: Mattie J Lenzen

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Impact of newly diagnosed abnormal glucose regulation on long-term prognosis in low risk patients with ST-elevation myocardial infarction: a follow-up study.

This is an interesting paper focussing on glucose regulation in patients who underwent primary PCI.

Although this is a well written paper, I do have some comments.

Based on the initial OGTT, performed after the pPCI, patients where classified as “normal glucose regulation (NGR)” or “abnormal glucose regulation (AGR)”, n=119 and n=105 respectively. After 3 month, the OGTT was repeated in the majority of these patients, resulting in a much lower proportion of patients with AGR (n=50 versus n=105). Consequently, in many patients the glucose status changed during the 3 month follow-up period. This important finding is hardly discussed.

In the introduction it was indicated (second aim) whether an early OGTT or a repeated test could provide additional information about long term outcome. This (repeated test) indicates that the analysis should be patient based. However, if understood correctly, the authors analyzed the long-term outcome of patients with normal versus abnormal OGTT tests during initial admission and compared this with the outcome of a measurement at 3 month. This resulted in two different cohorts of patients (an in-hospital and a 3-month group), as presented in tables and survival curve.

By introducing the additional value of a repeat test, one would expect that patients remain in the initial group (NGR or AGR at baseline). In this context a table could be prepared in which the authors visualize the number of patients that have at 3 month another glucose status as compared to baseline. Furthermore, it cannot be excluded that patients whose glucose status changed during the 3 month between baseline and follow-up OGTT have a different risk profile.

If, however, the authors are only interested in the value of an OGTT measurement at baseline or at 3 month, this should be stated more clearly, including in the aim of this study.

Some minor comments:
It was stated on page 8 that no glucose lowering drugs were not introduced in any of the patients (even those with type-II diabetes). This should preferably be discussed.

In the first section of the result, it is stated that 47% and 11% have AGR, suggesting a total of 58% (n=129). However, the 11% (n=24) are part of the 47% (n=105). This sentence should be revised (suggestion: “of whom” instead of “and”).

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

No conflict of interest