Reviewer's report

Title: Body weight in midlife and long-term risk of developing heart failure. A 35-year follow-up of the Primary Prevention Study in Gothenburg, Sweden

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Reviewer: Patrícia Lourenço

Reviewer's report:

Lena Björk and colleagues studied a subgroup of 7495 men HF-free included in the Primary Prevention Study. Such subgroup was evaluated in the midlife (ages between 47 and 55) and then followed for up to 35 years to study incident HF. Their main conclusion is that obesity in midlife is related to the long-term risk of developing Heart Failure.

The question posed by the authors is well defined and the methods and data as well as their statistical treatment appropriate and sound. The title and abstract accurately convey what was found. In general the manuscript is well written and conforms to the relevant standards of data reporting.

Major Compulsory Revisions

1. The conclusions are essentially not new. The association between higher body mass index and increased risk of incident heart failure is established.

2. The cut-offs chosen for categorization should be explained. And the particular group of underweighted men - those with BMI<18.5 (following the WHO criteria) should be analysed separately.

3. The fact that the study did not include women is a major problem. The authors make reference to that limitation but their attempts to minimize such setback are unsatisfactory and their justification to assume that results would be similar in women not convincing.

4. 2h fast for total serum cholesterol analysis makes its interpretation nearly impossible. Authors should explain how can a 2h fasting cholesterol be valorised.

5. The authors conclude that normal weighted men (BMI 22.5 - 25) have increased risk of HF, however this is not completely true when adjustments are made considering diabetes and arterial hypertension (that are major confounders).

6. The discussion is poor, namely in which concerns the potential pathophysiologic mechanisms between increased weight and incident HF. It is possible that HF was more diagnosed in patients with higher BMI because of symptom overlapping. That should be discussed.

Minor Essential Revisions

please rephrase '... followed until they died or were well above age 80...' - page 4, lines 85-86
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