Reviewer's report

Title: Is age an independent determinant of mortality in cardiac surgery as suggested by the EuroSCORE risk evaluation system?

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Reviewer: Prof Lars LI Thulin

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

Advice on publication: Accept after discretionary revisions

Indeed, the number of elderly patients admitted for open heart surgery (and OPCAB) has increased during the last decade, and information on preop. risk evaluation is of major interest to the surgical community. General results from large patient studies may not be entirely valid for the individual elderly patient.

This paper focuses on determinants of mortality in cardiac surgery using the EuroSCORE system and looks at age, and determinants not included in the EuroSCORE namely arterial hypertension(AH), diabetes mellitus(DM) and atrial fibrillation(AF). Age turns out to be a significant risk indicator and the authors speculate that age as an entity contains risk factors linked to AH, DM and AF. This is most likely since all these are independent risk factors. Also diastolic cardiac function possesses a high degree of diagnostic and therapeutic relevance.

Special preventive and therapeutic measures seems warranted in elderly patients undergoing cardiac surgery. Some examples of these "interventions" are given but could be further developed.

The EuroSCORE system works well among different patient age groups and in order to further estimate the operative risk, individual risk factors should be evaluated. EuroSCORE is easy to apply both retrospectively and in prospective studies. Especially in elderly patients it may be of value to expand the risk factors beyond the factors included in the EuroSCORE.

I think the conclusions drawn are most relevant and supported by the data. Follow up is detailed and of high quality. The paper is definitely of general and scientific interest and should be accepted for publication without any major revision. It may be shortened somewhat, but the format is definitely not "overdimensioned". The quality of written English is good although some sentences are very long and could be shortened or divided.

Competing interests:
None declared.