Reviewer's report

Title: Predicting the occurrence of embolic events in infective endocarditis: a risk score derived from 1456 episodes of endocarditis observed in the Italian Study on Endocarditis (SEI)

Version: 2
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Reviewer: Seung-Jae Lee

Reviewer's report:

The strength of this study is that it was based on a large scale, multicenter prospective data amounting to 1456 episodes of infective endocarditis (IE). However, it is dealing with a somewhat conventional topic about factors determining embolism in patients with IE. It has been well-known that large (>1-1.5cm), mobile vegetation and S. aureus are independently associated with embolism in patients with IE. In this article, the authors attempted to propose a validated prediction model of IE-related embolism, providing the embolic risk during the first 30 days of the disease.

Major compulsory revisions
- This article includes many tables and figures. Similar and repetitive statistical results would rather be excluded outside main text for readability. Exclude Table 5, 6, 8, figure 3 and 5 from main text. According to the intention of the authors, these data can be included into appendices.
- The authors described that “embolic events were associated with a higher in-hospital mortality, while no significant difference was observed in the rate of cardiac surgical procedures”. In this point, the results of statistical value (like p value of chi-square test) should be suggested.

Minor essential revisions
- English expression was clumsy in some sentences ("-----"); following example sentences need to be corrected to be more readable. Because this reviewer is not a native English speaker, my suggestions (which were written in parenthesis) must be just referred to. English-editing service can be necessary.

#<Abstract>
#However, available evidence regarding the prevention of embolic complications is "to some degree still" (still, to some degree,) unsatisfactory.
#;this could contribute to the decision making process ",when weighting indications and contraindications for early surgery" (for early surgery in patients
who are estimated to rank high-embolic risk).

#Introduction

"Prediction of an individual patient’s risk of embolism" (The prediction of embolic risk in individual patients) is difficult, (although) this having a major impact on clinical "decisions such as those regarding the indications for diagnostic procedures, antiaggregant and anticoagulant therapy and cardiac valve surgery" (consideration for the availability of antithrombotic therapy or timing of cardiac valve surgery).

"Prevention of a first or recurrent episode of embolism is an established indication for surgery;" (Actually, cardiac surgery can be indicated in patients with high embolic risk to prevent a further embolism)

#Results

#Embolic events were associated with a higher in-hospital mortality, while "no significant difference was observed in the rate of cardiac surgical procedures." (there was no significant difference in the rate of embolism between patients with and without cardiac surgery ?).

#There was no significant difference in the frequency of emboli between patients "who were or were not anticoagulants or antiaggregants" (with and without antithrombotics) at the onset of the IE episode.

#Discussion

#In our series, age, sex, a number of predisposing and comorbidity conditions were not found to be associated with the occurrence of embolic events ", and were not included in the score" (in the multivariate analysis. Therefore, these factors were not used to estimate the embolic risk.);" this is in contrast with what has recently been proposed by Hubert et al." (This is different from the embolic risk calculator recently proposed by Hubert et al, which included as variables not only vegetation size (> 10 mm) and S. aureus, but also age, diabetes, previous embolism and atrial fibrillation.)

#Combining the risk category with the time dimension (days on antimicrobials) could "allow to weight" (allow us to weigh) the probability of embolism, per risk category and per day on treatment "(as shown in Tables 7 and 8)" (deleted?) against "the risks associated with surgery" (a surgical risk), "making" (helping make) it possible to individualize a patient’s evaluation, especially during the crucial first days of the clinical course.

#the steep decline of the risk of embolization "once antimicrobial therapy is started" (immediately after antibiotics initiation) "leaves" (allows only) a narrow (time) window "of opportunity" (deletion?) for the surgical prophylaxis "of" (against) embolic complications.- allow only a narrow time window for the surgical prophylaxis against embolic complications!

-“A, B, C, and D” had better be changed into “A, B, C and D”; comma (,) immediately before “and” should be deleted in array of words. Still, comma can be used before “and” which connect two sentences; for example, echocardiography, diagnosis of embolic complications, and treatment
# -->echocardiography, diagnosis of embolic complications and treatment
--arthritis, spondylodiscitis, and cutaneous complications --># arthritis, spondylodiscitis and complications
- On figure 4 and 5, different lines (suggesting rate of embolism of each group) seem not to be clearly discernible. The authors should change the contour of lines for readers to discern the different lines clearly.

**Level of interest:** An article of importance in its field

**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