Reviewer's report

Title: Experiences with surgical treatment of ventricle septal defect as a post infarction complication and long time survival

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Reviewer: York YZ Zausig

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This clinical study of Coskun et al. reviewed 41 patients with post myocardial infarction ventricular septum defect. They focussed on preoperative hemodynamic stability, time interval between occurrence of myocardial infarction/ventricular septum defect and operation, and influencing factors on postoperative mortality. They conclude that a reduced time interval between occurrence of ventricular septum defect and operation as well as preoperative hemodynamic instability correlate with postoperative mortality.

The topic of this investigation is interesting and clinically relevant, as the point of time of operating post myocardial infarction ventricular septum defect influences morbidity and mortality. This study will help defining the operative planning.

Major comments:

This study gives important information about perioperative factors influencing mortality of post myocardial infarction ventricular septum defect surgery. To accentuate the conclusion of this important study, it would be helpful to give more information to the reader. For example the authors could describe the overall postoperative morbidity, cause of postoperative mortality (e.g. myocardial failure, sepsis, re-infarction), and correlation of mortality and time point of operation and preoperative hemodynamic (especially cardiac output, support of catecholamine). As the latter seems to highly influence the postoperative outcome this should be shown in an extra graph.

At this time most of the existing studies are only focussing on short term survival. This study gives new and important information on long term survival after this difficult operation as highlighted in the title. I would encourage the authors to emphasize this outcome in the results and discussion section and should include this in a graph, e.g. in the figure 3.

This study has enormous potency to help surgeons deciding the right moment for surgery. As this study shows that early operation of post myocardial infarction ventricular septum defect leads to a mortality of 100%, it would be helpful for the reader to know why these patients were operated, what kind of hemodynamic situation existed and why the other patients with cardiac shock were not operated. Additionally, other authors have shown only a mortality of 40% (Pretre et al. 2000). This should be discussed.
Minor comments:

Page 2, line 3: Please add “these” in “for a majority of these patients”.
Page 2, line 22: “Surgical intervention is indicated” is neither a result nor can be a conclusion of this study. Although, it is of course indicated.
Page 3, line 17: Correct “inferosetpal”.
Page 3, line 18: This sentence is not clear to me.
Page 3, line 24/25: These numbers differ. Why?
Page 4, line 6: Add “.
Page 5, line 7: Change “Tabele”.
Page 5, line 12: This is a result not a method. Additionally, Figure 1, 2 and table 2 show results not methods.
Page 5, statistical analysis section: Please add how data are presented: mean+/-SD or median? In the text of the discussion the correlation between the measurements are presented, but there are no information how they were analysed (Fisher’s exact test?).
Page 6, results section: Please provide uniform numbers of your data (e.g. 68+/-8.0 years, PA value of 32.09+/-6.2, 8.7 days)
Page 7, line 15: 4 to 5 or 4 to 6 weeks?
Page 7, last paragraph: These sentences are not clear to me.
Page 8, second paragraph: The first sentence is not clear to me.
Page 9, line 9: Delete “other”.
Page 9, conclusion: Why is a delay recommended in older patients and patients with an inferior infarction? This study did not focus on this. Why should the operation be done after 2 weeks? Your presented data support to operate patients not before day 3, but 36 days after AMI.
Table 2: Mortality after AMI 36 days: Is it really 100%?

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.