Author’s response to reviews

Title: Surgical Repair and Reconstruction of Aortic Arch in Debakey Type I Aortic Dissection: Recent Advances and Single-Center Experience in the Application of branched stent graft

Authors:

Qian Zhang (zhangqianxinwai@163.com)
Xiaochun Ma (mxcmxc2008@163.com)
Wenlong Zhang (zlonglong@vip.sina.com)
Zhengjun Wang (zhjwang@163.com)
Haizhou Zhang (zhz_doctor@163.com)
Xiaofeng Zhang (237068289@qq.com)
Jian Song (18562208780@163.com)
CHENGWEI ZOU (zouchengwei@sdu.edu.cn)

Version: 1 Date: 06 Jun 2017

Author’s response to reviews:

Dear Editors,

We would like to submit our revised manuscript entitled “Surgical Repair and Reconstruction of Aortic Arch in Debakey Type I Aortic Dissection: Recent Advances and Single-Center Experience in the Application of branched stent graft” (JCTS-D-17-00007) to be considered for publication as an original article in the Journal of Cardiothoracic Surgery. We sincerely appreciate you giving us an opportunity to revise our manuscript. We would like to thank all the reviewers for their insightful and constructive comments, which were extremely helpful to ensure the high quality of the manuscript. In the revision, we had carefully addressed each of comments in a point-by-point response letter. We highlighted the revisions of the text by different colors-green for addition and red for deletion. We believe that our revisions have significantly improved our manuscript and it is now suitable for publication in your journal.

Thank you very much for your kindest consideration. We look forward to hearing from you soon.
Sincerely yours,

Chengwei Zou, MD,

Department of Cardiovascular Surgery, Shandong Provincial Hospital affiliated to Shandong University, No.324 Jingwu Road, Shandong 250021, P.R. China.

Email: zouchengwei@sdu.edu.cn

Replies to Reviewer 1

Comment: In this manuscript, the authors reviewed the relevant literature concerning recent advances in surgical intervention of aortic arch and summarized their opinions in the application of branched stent graft in aortic dissection. The authors concluded the selection of branched stent grafts, the anatomic features and pathological changes of diseased arch are the crucial factors for clinical decision making. In their study, they got the satisfactory results, and they also summarized the selection of branched stent grafts still remains to be further discussed. In short, I recommend to accept.

Response: Thanks very much for your comments.

Replies to Reviewer 2

Comment 1: The authors have provided a large description on the most common ways of treating an acute type A aortic dissection. The descriptions on the various methods are all well known and probably such extensive review is not the main purpose of this manuscript. In fact, the authors describe their experience in using single, double or triple stent graft as their more recent and preferred solution. The description of the various types of branched graft is unclear as is the different way of utilizing it. I strongly suggest the authors to add a series of drawing highlighting the characteristics of each type of stented graft and, once again with the help of drawings, describe the standard operative technique. At this point the author experience on how to select the proper graft type, whether since, doubles or branched graft will be clearer.

Response 1: We would like to express our gratitude for this comment. We have added the figure 1 in the subsection of Operative procedures and figure 2 and figure 3 in the Selection of branched stent graft-our opinions. Please check the figures and the figure legends.
Comment 2: Given the similarities with the execution of a total arch replacement with the use of
the e-vita stent graft prosthesis or with the Thoraflex graft (as reported in some of their
references) the authors should comment their results and explain the advantages over these types
of approaches (namely the frozen elephant trunk) as widely reported in the literature.

Response 2: We admire this insightful comment. Compared to “the frozen elephant trunk”
technique, implantation of branched stent comprises the advantages that include: 1) greatly
simplifying the surgery in comparison with the complicated and sophisticated surgical skills
challenging for cardiovascular surgeons to handle in the “the frozen elephant trunk” (such as
bleeding control and anastomosis); 2) reducing the operation time, particularly the time course of
circulatory arrest; 3) avoiding the potential damage of recurrent laryngeal nerve that may occur
in the operation. We have supplemented this part of comment in the subsection of Branched stent
graft.

Comment 3: why do the authors need to reduce the temperature at 15 degree even in the presence
of integrate perfusion?

Response 3: Thanks very much for the question. We routinely performed the concomitant
cardiac procedures during the core cooling, for the purpose of shortening the operation time
before the circulation arrest. Thus there might exist a period of time in the surgery during which
the temperature reaches 15 degree in the presence of integrate perfusion.

Comment 4: All necessary information about their patient characteristics as well as the operative
data is needed. At present no inferential or descriptive analysis is provided.

Response 4: We appreciate this constructive comment. We have supplemented a table in which
the preoperative, operative and postoperative data for involved subjects is provided. Please check
the Table 1 in the revised manuscript in the subsection of Patient characteristics and
perioperative data.