Author’s response to reviews

Title: Cardiac arrest without physical cardiac injury during Nuss repair of pectus excavatum

Authors:
Jianyong Zou (179235907@qq.com)
Canqiao Luo (drluocanqiao@126.com)
Zhenguo Liu (liuzg1340@126.com)
Chao Cheng (drchengchao@163.com)

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Author’s response to reviews:

Dear Dr. Vipin Zamvar,

We would like to submit our revised manuscript entitled "Cardiac arrest without physical cardiac injury during Nuss repair of pectus excavatum" (JCTS-D-16-00267) for publication in Journal of Cardiothoracic Surgery.

The comments have been addressed in a point-to-point manner as follows. Thanks very much for your hard work and kind suggestions.

Yours Sincerely,

Chao Cheng, M.D, Ph.D.
Department of Thoracic Surgery
The First Affiliated Hospital of Sun Yat-sen University
58 Zhongshan 2nd Road, Guangzhou 510080, P. R. China.
Phone: +86-20-87755766-8782
E-mail: drchengchao@163.com

Comments from receiving editor:
Q1. Could the authors comment on the evaluation of the coronary artery to pulmonary artery shunt in more detail? Their recommendation to evaluate any such shunt seen on echocardiography with further imaging, such as angiography, seems very wise. I would favor making it a forceful recommendation of your report.

A1. Thanks for your constructive advice. We have added more detail about the echocardiography of the case in the article. Angiography may be useful for further evaluation of the shunt seen on echocardiography. However, the patient was unwilling to take further angiography worrying about the potential side effects of this examination.

Q2. Do the authors feel that compression of the coronary arteries by the inverted pectus bar might have increased the shunting of blood from the aorta/proximal coronary artery to the pulmonary artery, thereby producing myocardial ischemia and cardiac arrest?

A2. Thanks. We feel the inverted bar has few chance to cause the compression of coronary artery, but might enlarge the space of anterior mediastinum and cause the rotation of the heart which increases the shunting of blood from the aorta/proximal coronary artery to the pulmonary artery. As the result, myocardial ischemia and further cardiac arrest happen.

Q3. Could the authors comment on the position of the defibrillation paddles during the ineffective defibrillation efforts on the second attempt? Placing the paddles in the usual positions will allow flow of electrons from one paddle to the other via the bar without passing through the myocardium. The paddles should be placed one anterior, one on the back of the patient to force the current through the heart.

A3. Thanks for your constructive advice. The position of paddles in the case is based on the traditional guidelines of the European Resuscitation Council state, but the defibrillation in the second time was ineffective. Taking into account the possibility of bar might prevent electrons from passing through the myocardium, your advice is constructive. And we added your advice into the discussion part.