PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	A method for early evaluation of a recently introduced technology by deriving a comparative group from existing clinical data: a case study in external support of the Marfan aortic root
AUTHORS	Tom Treasure, Sonya Crowe, K M John Chan, Aaron M Ranasinghe, Rizwan Attia, Belinda Lees, Martin Utley, Tal Golesworthy and John Pepper

VERSION 1 - REVIEW

REVIEWER	Prof.Dr R.J.M. Klautz head of the department of Cardiothoracic Surgery Leiden University Medical Center The Netherlands I have no conflicts of interest to report
REVIEW RETURNED	22/01/2012

GENERAL COMMENTS	This is a very well written and interesting manuscript. Both the methodology and argumentation are excellent and the new technology they describe is very promissing. Some remarks are already addressed by other reviewers. This study clearly focusses on the safety of the procedure and the authors make a very good point. In terms of effectiveness it is still in the air. There is however an argument why it would not work which, if it would be included, would even incraese the strength of the manuscript. On page 10, paragraph 3, the authors discuss the ultimate test of whether EARS would prevent dissection. In this discussion it could be argued that leaving the diseased aorta in place, would still leave the patient with the risk of dissection. Both the architecture of the aortic wall, with abnormal distribution of collagen and elastin fibers, and the abnormal repair processes that are ongoing in these aortic tissues are reasons why the aorta would still be able to dissect, even without further dilatation. The notion that this risk may be lower is true and also the consequences of dissection could be less, but the replacement of the aorta will obviously be more effective in that respect.

REVIEWER	Umberto Benedetto, PhD Sapienza, University of Rome Department of Cardiac Surgery Ospedale Sant'Andrea, Rome, Italy
REVIEW RETURNED	23/01/2012

GENERAL COMMENTS	Treasure et al. report a comparative study investigating outcomes after a novel technique of aortic external support in 20 patients

	affected by Marfan syndrome. The study definetely accomplish the aim of fairly compare outcomes between the novel and standard operation, pointing out the critical difference between the two approaches: the use of cardio-pulmonary bypass. In addition, the external support technique also allows freedom from endothelial-contact, and (as valve-sparing operations, indeed) preservation of the native valve. Although well written and clearly explained, it remains a retrospective case-control study (as fairly stated in the paper). Once the benefits of such innovative, promising technique are clarified, a prospectively randomised investigation would be desirable to establish a standard of care.