Reviewer's report

Title: Single-stage Repair of Adult Aortic Coarctation and Concomitant Cardiovascular Pathologies: A New Alternative Surgical Approach

Version: 3 Date: 18 May 2006
Reviewer: Nicholas T. Kouchoukos

Reviewer's report:

General
A method for single stage repair of aortic coarctation and concomitant cardiovascular pathologies is reported in 4 adult patients, all with successful outcomes.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The authors cite just one reference to justify their conclusion that it is preferable to correct both lesions simultaneously. This statement could be challenged, since patients with very complex cardiac disease requiring a long procedure, might best be served with a staged approach. What patients would the authors not consider suitable for a one stage approach?

Although several authors recommend bypass grafts of varying lengths to treat aortic coarctation, the quality of the aortic tissue may lead to late complications beyond the authors relatively short length of followup (see reference 10). Why did not the authors consider and end to end conventional graft repair? Would primary end to end repair not have been preferable in Case 1, a 27 year old female with a long life expectancy?

With reference to case 2, severe atheromatous changes can occur in IMA arteries in patients with longstanding untreated coarctation. Did the authors have any concern about using the IMA in this relatively old patient?

Are the authors not concerned about the potential for embolization of atherosclerotic debris in older patients in whom a sidebiting clamp will be placed on the aortic arch with their technique?

Although the authors have demonstrated the technical feasibility of the combined approach, they should more clearly define the specific situations in which they would use the technique and also the conditions where they would not.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

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Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published