Reviewer’s report

Title: Total Aortic Arch Replacement under Intermittent Pressure-augmented Retrograde Cerebral Perfusion

Version: 1 Date: 3 September 2010

Reviewer: Kazuo Kitahori

Reviewer’s report:

Discretionary Revisions:

I am very interested in this paper.

In this paper, the authors demonstrated that IPA-RCP had some advantage of cerebral protection during circulatory arrest, compared to conventional RCP. Monitoring of rSO2 is a good indicator for cerebral perfusion. Quick recovery of consciousness is also a good clinical outcome. It is very interesting and encouraging for aortic surgeons.

I have some questions.

How do you select patients to use this technique? Or do you use it for all patients who undergo aortic arch operation?

Conventional RCP has some merit. For example, bloodless surgical field, easy manipulation of cardiopulmonary bypass machine. As you mentioned, IPA-RCP gave reverse flow for the arch vessels. It was not “comfortable” for surgeons. When do you convert the method from conventional RCP to IPA-RCP during the operation? Do you have any criteria of circulatory arrest time or rSO2 level?

You showed rSO2 was maintained during IPA-RCP. I am very interested in zigzag movement of rSO2. It must indicate augmentation of CVP pressure increased rSO2, I think. How was the response of rSO2 after CVP reached at 45 mmHg? Was it quick or was there some time lag?

Did you place an epidural catheter for monitoring of CSF pressure? If you did, did you find any change of CSF pressure between IPA-RCP and conventional one?

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Declaration of competing interests:

I declare that I have no competing interests.