

Peer Review File

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Comment 1: What is the Right intrathoracic subclavian artery?

Reply 1: Thank you to the reviewer for your question. We meant to highlight the cannulation of the right subclavian artery which is isolated and prepared from the anterior mediastinum. On our second draft of the manuscript, we have cancelled intrathoracic and only left right subclavian artery.

Comment 2: “LCA and LSA are isolated, resected and anastomosed to the two dedicated lateral branches of the vascular prosthesis” – This is done prior to deployment of hybrid prosthesis?

Reply 2: Thank you for your question. Yes, we use our peculiar debranching first technique, consisting in the resection of the LCCA and LSA during the first part of the operation, before clamping the aorta and before doing anything to the aortic arch. At this stage, we sequentially expose LCCA and LSA, isolate, resect from the arch and connect them to our peculiar home-made quadrifurcated arterial circuit in order to achieve complete trivascular cerebral perfusion during circulatory arrest phase.

Comment 3: What is the device which is used? Is it Thoraflex hybrid? Is it commercially available? Or the company has specifically designed for the authors? – kindly mention this in the manuscript

Reply 3: Thank you for pointing this out. Yes, our custom Thoraflex is a modification of a standard Thoraflex hybrid that Terumo aortic has made following our request for customization. This aspect is explained in the paragraph “Custom Thoraflex hybrid design and size selection”.

Comment 4: What is advantage of this device over the regularly available 4 branch Thoraflex graft in the market?

Reply 4: We believe that a modification to the standard Thoraflex Hybrid design facilitates correct positioning of the intrathoracic epiaortic vessels and sternal closure by reducing anterior mediastinal encumbrance.