Reply to the Letter to the Editor

Reply to Dr Barner

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Received 11 February 2011; accepted 16 February 2011; Available online 3 April 2011

Keywords: Coronary artery disease; Coronary bypass surgery; Left main stem

We thank Dr Barner for his comments [1]. We agree that bilateral internal thoracic artery (BITA) grafting is an appropriate strategy in selected patients with left-main-stem disease, and with this in mind, in our article, we cite the excellent outcomes obtained by Tatoulis et al. using BITA in 8420 patients, including 849 patients with left main disease [2], and emphasize the value of adjuncts used to minimize the risk of conduit vasospasm. Vasospasm of the ITA is uncommon, and it is possible that the first study cited by Dr Barner was underpowered to detect this, having only 45 patients in the left-main-stem arm [3]. In the second larger study cited, hypoperfusion of myocardium subtended by the lateral ITA (LITA) was observed in one patient [4]. In the absence of direct coronary angiography, however, diagnosis of conduit spasm relies on surrogate markers: without more information, it is impossible to exclude the possibility of conduit vasospasm contributing to the approximately 3% incidence of postoperative myocardial infarction (MI), low cardiac output state, and ventricular fibrillation in both series. We agree with the conclusions drawn in the author’s own 1000-patient series, and highlighted in the subsequent transcript of the discussion at the same event at the 121st Annual Meeting of the American Surgical Association, that the radial artery has greater vasoreactivity than the LITA (which may account for its comparatively poorer long-term patency), and intra-operative vasospasm requiring vigorous treatment with intraluminal and topical papaverine is seen in nearly 1% of cases performed by an expert in this technique [5]. In less experienced hands than Dr Barner, the incidence is likely higher, and failure to recognize this in a patient with critical left main stenosis may be catastrophic.

References


Letter to the Editor

Neuromonitoring using near-infrared spectroscopy: still an interpretation problem

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Received 16 December 2010; accepted 2 March 2011; Available online 13 April 2011

Keywords: Cerebral protection; Neuromonitoring; Aortic arch surgery

We read with great interest the article by Harrer and colleagues about their initial experience with near-infrared spectroscopy (NIRS) for neuromonitoring during aortic arch surgery [1]. They used this tool in 13 patients and considered the drop of total oxygen index (TOI) below 55% and/or the drop of 15–20% of baseline as an indicator of insufficient perfusion and a reason for completing the bilateral cerebral perfusion in 12 patients.

We have used the NIRS in aortic arch surgery routinely for 4 years and performed it in almost 300 patients up to present. Because our experience with this procedure (no switch from unilateral to bilateral perfusion was necessary in any patient) does not correlate to that of Dr Harrer, we feel compelled to comment.

At the beginning of unilateral cerebral perfusion, we also observed a drop of TOI that increased even slightly after few minutes parallel to the opening of collateral pathways and remained stable during the entire period of cerebral perfusion accounting on average for nearly 92% or 88% of the baseline at the perfused and contralateral side, respectively [2]. At the same time, the pressure values in both radial arteries and the transcranial Doppler assessment alluded to sufficient cerebral cross-perfusion, even in those