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LETTER TO THE EDITOR

Innominate Artery Cannulation as Standard Technique for Ascending Aorta and Aortic Arch Surgery

We studied with great interest the valuable work of Dr Kashani et al. about the direct innominate artery cannulation for surgery of the thoracic aorta [1]. We congratulate the authors for this well documented scientific study and for their results. This is a very interesting issue and according to the international bibliography is becoming very popular [2–4]. Other than the most common approach of the axillary arterial cannulation for aortic aneurysms and aortic dissections, Banbury and Cosgrove [2] were the first to report the use of the innominate artery as a solution to the challenge of arterial cannulation with the interposition of a graft; indirect innominate cannulation. The main advantages of this technique are: firstly, the absence of the need for a second incision. Secondly, it provides a higher flow rate without the need for higher pressure, because the innominate artery is larger than the axillary artery. In addition to that, it enables blood pressure monitoring via the right radial artery during antegrade cerebral perfusion. Moreover, it avoids the brachial plexus injuries associated with axillary artery cannulation. We would like to add some interesting advantages of the innominate artery cannulation like avoidance of injury of the subclavian vein and also avoidance of fluid collection (seroma) after axillary artery cannulation. Furthermore, the surgeon is able to perform the sternotomy before patient heparinisation and, additionally, avoid arm ischaemia, other than the better cosmetic results. In our institution, we usually perform direct cannulation in elective patients with aneurysm of the ascending aorta, while we usually perform indirect cannulation in cases with acute aortic dissection. In this, second, condition we avoid the direct cannulation because of the risk of dissecting the artery in proximity to its origin from the aortic arch. So, with the innominate artery partially clamped, an 8-mm polytetraf luoroethylene or Dacron graft was anastomosed to that vessel in end-to-side fashion. We would like to ask the authors their opinion about how a surgeon should choose between direct and indirect cannulation of the innominate artery with the interposition of the graft. Comparatively, which patients are candidates for axillary and which for innominate artery cannulation? Then, is it necessary, in their opinion, to perfuse the left carotid artery during the open distal anastomosis given that, through the innominate cannulation, we achieve a very good cerebral perfusion?

Nevertheless, according to the bibliography and our opinion, the innominate artery should not be cannulated if any of the following conditions exist: atherosclerosis at the base of the innominate artery, aneurysmal dilatation of the artery, redo sternotomy with the aorta in close proximity to the sternum, the necessity to initiate cardiopulmonary bypass before opening the sternum and type A acute aortic dissection extending to the innominate artery [3–5]. In conclusion, innominate artery cannulation, when feasible, is a safe, rapid and' 'qualified'' standard technique mainly in ascending and aortic arch surgery.

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