New Dimension To Myocardial Protection

P Modi

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Abstract

Since the advent of open heart surgery era, various techniques of myocardial protection are being developed in order to prevent or minimize possible myocardial damage out of surgery and/or methods of getting motionless and bloodless heart. Hypothermia and cold cardioplegic arrest of the heart is among the most tested myocardial preservation techniques. Warm body and warm heart surgeries have been in use since last few years and have to stand against the time ($_1$). In our hospital, we accept almost all valvular cases that come in our outdoor patient department on random basis and we do warm body, warm heart surgery. Warm heart was maintain by administering continuous normo-thermic blood perfusion either via aortic root or via retrograde catheter ($_2$), or via continuous retrograde plus intermittent antegrade direct ostial perfusion especially right coronary artery. We have done more than 350 cases consecutively and results were evaluated in the form of post-operative left ventricular function after about twelve hours.

We have observed no or very little fall in ejection fraction which is comparable to any conventional cold body, cold heart surgery. Now coming to my point, if coronary perfusion maintains viability of the heart then nonperfusion leads to death which is manifested by various forms of brady and tachyrrhythmias which forms the basis of my new direction to readers. If surgery is done on a warm body with warm heart technique, then intermittent mandatory coronary perfusion either antegrade or retrograde should sustain the heart for indefinite period.

'Mandatory' means delivering normothermic blood perfusion when heart develops major ECG changes such as bracycardia. Perfusion once again can be stopped once the sinus rhythm is gained. Thus even while doing empty beating heart for valvular or other surgeries one can have priviledge of getting bloodless field. This direction has been raised out of our successful aortic valve replacement in which we could not insert retrograde catheter in the coronary sinus and the result was same as our other warm body warm heart surgeries.

References

1. Salerno TA. Warm heart surgery.1st edition. London: Edward Arnold, 1995.
2. Matsumoto Y, Watanabe G, Endo M, et al. Efficacy and safety of on-pump beating heart surgery for valvular disease. Annals of Thoracic surgery, 2002; 74:678-83.

Author Information

Pranav Modi, M.S.
Senior Resident, Department of Cardiovascular and Thoracic Surgery, G.B. Pant Hospital