Publication Brief

Sequential Bypass on the Beating Heart Can Be Achieved without Compromising Patient Safety or Regional Myocardial Blood Flow

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BACKGROUND
For coronary revascularization, some surgeons prefer to operate off the pump on the beating heart (OPCABG). In addition to the internal mammary artery to the left anterior descending coronary artery (LIMA-LAD, a sequential reversed saphenous vein graft (rSVG) is used to revascularize the lateral, inferior, and posterior myocardium with a single proximal aortic anastomosis in order to minimize aorta manipulation.

OBJECTIVE
To retrospectively summarize a series of OPCABG cases, and evaluate distal conduit blood flow.

STUDY
• 175 patients were enrolled in study between January 1, 2005 and January 1, 2007.
• OPCABG performed with 1 IMA graft and 1 sequential rSVG performed by a single surgeon
• The average number of grafts per patient was 3.4 (range, 3-5).
• Flow rates were measured in each segment of the sequential graft using a Transonic Flowmeter (HT314, Transonic Systems Inc, Ithaca, NY).
• All patients were given clopidogrel (75 mg/d) for 6 weeks beginning on postoperative day #1.

RESULTS
• Mean flow through the distal segment of the sequential venous bypass was 36 ml/min. This was found not to be significantly influenced by the number of proximal coronary anastomoses nor by the size of the proximal coronary bed.
• 0% 30-day mortality and stroke rate.
• 29% incidence of postoperative atrial fibrillation in patients with normal baseline sinus rhythm (49/169).
• No myocardial failure or renal failure requiring dialysis occurred.

CONCLUSION
OPCABG using sequential reversed saphenous vein grafts (rSVG) is safe, and regional coronary blood flow is not compromised by the creation of sequential anastomoses.

TRANSONIC® OBSERVATIONS
• Impressive report by a Transonic HT300-series user attesting to the success of his OPCABG surgeries.
• For more information, please request the Transonic handbook: FLOW-BASED INTRAOPERATIVE CORONARY GRAFT PATENCY ASSESSMENT at http://www.transonic.com

REFERENCES
1 Quigley RL, “ Sequential bypass on the beating heart can be achieved without compromising patient safety or regional myocardial blood flow.” Int Surg. 2010;95(3):257-60. (Transonic Reference # 8039AH)