

HEART BEAT

The Cardiovascular Newsletter for Our Partners in Care

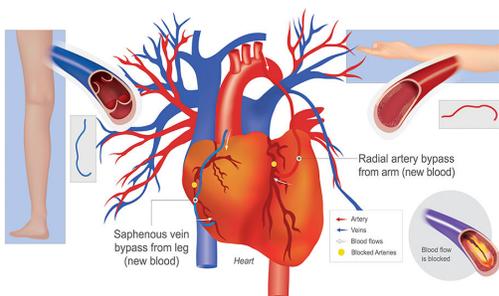


SAN ANTONIO REGIONAL HOSPITAL



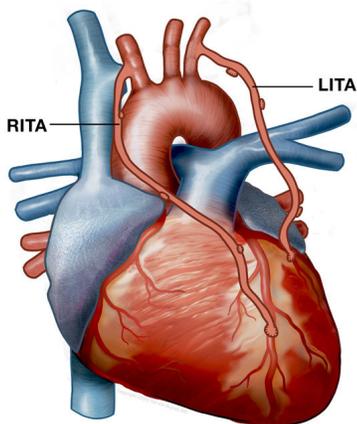
Arterial CABG Trend at San Antonio Regional Hospital Single LITA vs Multi-Arterial CABG

Heart Bypass Surgery (CABG)



significant improvement in overall survival, recurrent myocardial infarction, and need for repeat re-vascularization. Despite these favorable clinical outcomes, only a minority of the CABG patients in this region (12.8%) (6) and nationwide (15.6%) (6) had more than LITA as the only arterial graft.

The standard coronary artery bypass grafting (CABG) operation uses the left internal thoracic artery (LITA), also known as LIMA, as the only arterial graft to the left anterior descending artery (LAD)(1). However, many recently published series (2,3,4,5) on the use of more than one arterial graft, ie LITA plus right internal thoracic artery (RITA), also known as RIMA, and/or radial artery (RA), have shown a



IN THIS ISSUE

"OVER THE PAST DECADE, THE SURGEONS AT SARH HAVE GRADUALLY INCREASED THE UTILIZATION OF RITA AND RA IN THE PERFORMANCE OF MULTI-VESSEL CABG."



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Over the past decade, the surgeons at San Antonio Regional Hospital (SARH) have gradually increased the utilization of right internal thoracic artery (RITA) and radial artery (RA) in the performance of multi-vessel CABG. Because the use of RITA and RA, in addition to LITA, is technically more demanding and requires longer operative and cardiopulmonary bypass times, we have reserved this approach to younger and healthier patients with normal heart function, in whom the life expectancy is greater than 10–15 years. The increased risk of longer and more complicated CABG may be substantial in the older patients with multiple cardiac and non-cardiac co-morbidities which would likely outweigh the potential benefit of multi-arterial grafting as their survival rate is less dependent on CABG graft patency.

In an analysis of the past 4 years at SARH, we had used RITA (in situ or as LITA “y” branch) and/or RA in addition to LITA to LAD in 27% to 41% (Fig. 1)(7) in our multi-vessel CABG patients who were 65 years old or younger with essentially normal heart function (EF = 50% or greater, no HF). There were no peri-operative mortality, myocardial infarction or graft closure in this selected group of patients. We will continue to advocate for an increase in the use of multi-arterial grafting for our younger, healthier patients with suitable arterial conduits and appropriate coronary targets.



Figure 1. Proportion of Single vs Multi-Arterial CABG in younger (65 years old or younger) patients with normal (EF 50% or greater without HF) heart function at SARH.



References:

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2. Lytle BW, Blackstone EH, Sabik JF. The effect of bilateral internal thoracic artery grafting on survival during 20 postoperative years. *Ann Thorac Surg* 2004;78:2005-2012.
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4. Buxton BF, Hayward PA, Raman J, et al. Long-term results of the RAPCO trials. *Circulation* 2020;142:1330-1338.
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7. San Antonio Regional Hospital registry. Data provided by Shannon Hernandez, BSN, RN, Nurse Navigator of Cardiothoracic Surgery, SARH.

About the Author:

Dr. N. Wang is a Board Certified Cardiovascular and Thoracic Surgeon on staff at San Antonio Regional Hospital and currently serves as the Medical Director for Cardiothoracic Surgery. Dr. Wang attended Loma Linda University Medical Center School of Medicine, completed his Cardiac Surgery Residency at Loma Linda University, and completed an additional year of Fellowship at the Cleveland Clinic Foundation. For more than 25 years, his focus has been on complex heart disease surgery. His particular interests are Mitral Valve Repair, Aortic Root Replacement with Valve Sparing Aortic Root Reconstruction, Aortic Aneurysm and Dissection Repair, Thoracic Endo-Vascular Aneurysm Repair and Off-Pump Coronary Artery Bypass Grafting.

Dr. Wang is married to his wife Sandy and he enjoys astrophotography, sailing, and traveling around the world. He is also the President and Founder of Hearts for Mission International (2023-) whose mission is to develop heart surgery and services in underserved regions of the world through education and open heart surgery.