The evolution of surgical myocardial revascularization

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Prior to the advent of cardiopulmonary bypass, myocardial revascularization strategies fell into three categories: Extra-cardiac procedures, cardiac operations on non-coronary artery structures and direct coronary artery surgery. After the invention of the heart-lung machine by John Gibbon in the fifties, coronary artery by-pass grafting spread all over the world. Since the nineties, the methods of surgical revascularization fell into two main categories, namely on-pump and off-pump procedures. Progresses in techniques notwithstanding, there are still a significant number of patients who may not benefit from conventional techniques of myocardial revascularization due to diffuse coronary artery disease. Since a certain level of morbidity and mortality is associated with direct surgical or endovascular coronary procedures, the search is on for less invasive and less costly alternatives that ensure myocardial blood supply. Researchers are on the lookout for new revascularization methods also because of the many patients suffering from diffuse coronary artery disease that may not benefit from conventional techniques. Some alternative myocardial revascularization methods attempted in recent years bear a resemblance to techniques tried and abandoned in the first half of the last century. Earlier attempts to achieve myocardial revascularization may constitute a fertile pool of ideas. In the era of coronary stenting, research still needs to draw some old ideas to elaborate derivative strategies that employ the tools of modern technology. It is important for clinicians and researchers to know the historical steps which paved the way to current practice.

Biography

Marco Piciche MD, PhD graduated with a degree in Medicine in Florence in 1995 and completed his cardiac surgery residency in Rome in 2000. He earned his research master in Surgical Science (Paris, 2007) and a university diploma in vascular surgery (Paris, 2007). In 2009 he opened the 44th Congress of the European Society for Surgical Research. He has written many publications and worked as a guest reviewer for many international leading journals. He is a Member of the Editorial Board of several English language Journals. He received a Doctor of philosophy (PhD) in Paris. He is the Editor-in-Chief of the multi-author book "Dawn and Evolution of Cardiac procedures-Research Avenues in cardiac Surgery and Interventional cardiology". Currently he is a cardiac surgeon in Rome. marco.piciche@libero.it

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