**OFF-PUMP CORONARY ARTERY BYPASS GRAFTING: THE MYTH, THE REALITY**

**S.G. Raja**

Harefield Hospital, London, UK

Coronary revascularization (percutaneous coronary intervention (PCI) and coronary artery bypass grafting (CABG)) has become the principal treatment modality in patients with severe coronary artery disease. Worldwide CABG has been performed predominantly with the use of cardiopulmonary bypass (CPB) and cardioplegic arrest, which allows optimization of the surgical field and consistent placement of grafts. However, CPB initiates a systemic inflammatory response largely determined by blood contact with foreign surfaces and the activation of complement. It is generally accepted that CPB-induced whole-body inflammatory reaction contributes substantially to postoperative organ dysfunction and morbidity. A surgical technique avoiding cardiopulmonary bypass should, in theory, reduce the incidence of such complications and lead to improved patient outcomes. This assumption has rekindled interest in performing off-pump coronary artery bypass (OPCAB) surgery, which for the past decade or so has been the focus of intense scientific scrutiny. The existing scientific literature contains a staggering amount of research related to this technique. Although the available evidence from a large number of randomized controlled trials, nonrandomized clinical trials, propensity-matched analyses, and experimental data suggests that outcomes are better after off-pump than after on-pump CABG, skepticism still exists about the safety and efficacy of the off-pump technique. This lecture attempts to provide an overview of the current outcomes of OPCAB in comparison with on-pump CABG and addresses the concerns and controversies related to OPCAB which are in part responsible for the wide variation in the adoption rates of this technique universally.