



■ CLINICAL TRIAL HIGHLIGHTS

# Postrevascularization Survival Among South Asians Admitted With an Acute Coronary Syndrome

Written by Maria Vinal

Canadians of South Asian ancestry treated with coronary artery bypass graft (CABG) or percutaneous coronary intervention (PCI) have improved long-term survival but higher rates of repeat revascularization with PCI compared with Canadians of European descent. Kevin R. Bainey, MD, Mazankowski Alberta Heart Institute, University of Alberta, Edmonton, Alberta, Canada, presented data from a study comparing short- and long-term clinical outcomes among Canadians of South Asian and European descent admitted to the hospital with acute coronary syndrome (ACS).

With the growing migration of South Asians to North America, there is an increased need for physicians to be aware of ethnic differences associated with coronary artery disease (CAD) [Bainey KR and Jugdutt BL. *Atherosclerosis* 2009]. South Asians living in Canada have a greater prevalence of atherosclerosis [Anand SS et al. *Lancet* 2000] and high rates of CAD mortality [Sheth T et al. *CMAJ* 1999] that occurs at a younger age [Yusuf S et al. *Lancet* 2004]. Canadians of South Asian descent with CAD also have significantly worse health outcomes 1 year after angiography compared with Canadians of European ancestry. One-year adjusted mean (SD) scores were significantly lower in South Asian angina frequency (86 [23] vs 88 [20]), treatment satisfaction (86 [19] vs 89 [16]), and quality of life (71 [24] vs 76 [21];  $p < 0.001$  for all) [Bainey KR et al. *Am Heart J* 2011].

The objective of this large, prospective, comprehensive clinical registry study was to compare short- and long-term clinical outcomes of South Asian and European Canadian patients admitted with ACS. A validated names analysis program was used to identify South Asian surnames for patients listed in the Alberta Provincial Project for Outcomes Assessment in Coronary Heart Disease database, an ongoing prospective data collection initiative that tracks patients having balloon angioplasty, the type and location of coronary artery stents, as well as previous or subsequent revascularization by CABG or PCI. A 3:1 propensity-matched technique was used to reduce variability and improve biased reduction.

Of the 68,108 patients with ACS undergoing coronary angiography between 1999 and 2012, 1823 were South Asian and 61,260 were of European descent. There were no significant differences in 30-day and 1-year mortality rates, or 1-year repeat angiogram rates between the two groups. Propensity-matched, adjusted, 1-year repeat revascularization rates with PCI were significantly higher for South Asian compared with European patients (6.0% vs 3.6%;  $p < 0.01$ ). There was no difference in 1-year repeat revascularization among patients receiving CABG (4.8% vs 5.6%;  $p = 0.75$ ). Long-term survival for propensity-matched, adjusted ACS patients was significantly higher ( $p < 0.01$ ) for South Asian Canadians (Figure 1) particularly with revascularization.

It should be noted that the use of name recognition software, versus self-identification, may have resulted in the incorrect assignment of some subjects because of interracial marriage or religious conversion/name change. In addition, the use of propensity-matched analysis may not control for unmeasured confounders between South Asian and European Canadian patients.

These data indicate the need for clinicians to be more sensitive to ethnic-based outcomes and therapeutic strategies in the treatment of ACS.

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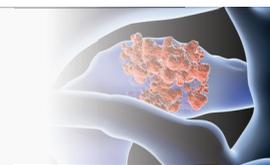
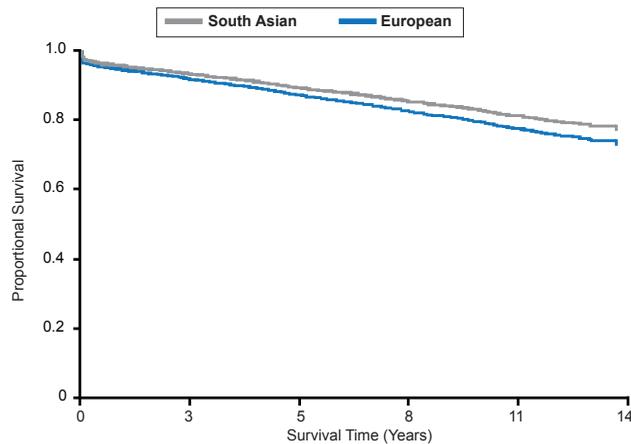


Figure 1. Comparison of Long-Term Mortality in South Asian and European ACS Patients



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## Initial Data From CCS Registry Shows Low Complication Rate in Interventional Cases

Written by John Otrompke

Data collected during the first 4 months of the recently created Caribbean Cardiology Society (CCS) cardiac catheterization registry have found a low rate of reported complications, including a 2% rate of hematomas and no deaths, according to a presentation given by Victor Elliot, MBBS, DM, University Hospital of the West Indies, Mona, Jamaica. In 2014, physicians hope to receive data from all 13 cardiac catheterization labs participating from eight independent Caribbean nations that will better reflect the various peoples/nationalities represented in the Caribbean.

Dr. Elliot presented data from 265 cases performed at two centers collected during the first 4 months of the CCS Cardiac Diagnostic and Interventional Registry, which went online in January 2013.

Of those entered in the registry, 62% were male and the majority (63%) were aged 50 to 69 years; 15% were current smokers; and 61% were nonsmokers. Interestingly, 66% of the patients stated they were of South Asian descent, an observation that Dr. Elliot attributed to the population served by two centers that participated in this first collection of data. Another 23% of the patients were black, 4% were white, and 7% were of mixed racial background. Of the patient population as a whole, 22% had left-ventricular systolic dysfunction.

Of the 265 cases seen, 88% had diagnostic coronary angiograms. Of those that underwent angiography, surgical intervention was recommended in 22% of cases, while medical therapy was recommended in 36%. The remainder (42%) underwent percutaneous coronary intervention (PCI). The majority of catheterizations were elective (96%) and PCI was performed in 18% of elective cases.

Femoral artery access accounted for a little more than half of procedures (58%); while radial access was also frequent (42%). Brachial arterial access was utilized infrequently (1%). Complications in this population were low, and hematomas occurred in only 2% of cases. Vascular access closure devices were used in 5% of cases. For those patients with TIMI flow <3 who underwent PCI, the treating physician succeeded in establishing normal TIMI 3 flow in all cases.

This voluntary registry was initially proposed as part of a quality-improvement initiative in 2011. Data categories were designed to be consistent with those of Version 4.4 of the Cath-PCI Registry of the American College of Cardiology's National Cardiovascular Data Registry. The registry now includes data on 75 different variables in nine categories. Data is available online at [www.ccsdi.com](http://www.ccsdi.com). While 13 catheterization laboratories in the Caribbean have agreed to participate, not all laboratories are currently contributing data due to concerns over legal issues, such as confidentiality, privacy and copyright. These concerns have been addressed and will continue to be reviewed as the registry grows. Continued efforts to expand participation across the Caribbean nations will be necessary to ensure the registry becomes an important tool for continued quality improvement and clinical research.

## When to Consider Leptospirosis in Unexplained Myocarditis

Written by John Otrompke

Although the primary treatment for typical leptospirosis is antimicrobial therapy in the form of penicillin and doxycycline, assessment of left ventricular (LV) systolic function should also be performed in patients with this condition. Findings of new LV dysfunction (ejection fraction <50%) may provide evidence of associated myocarditis, which is an important finding. In addition, when patients such as farmers or others working closely with animals, present with unexplained myocarditis, the differential diagnosis should include leptospirosis according to Dabor Resiere, MD, Central University Hospital, Fort de France, Martinique.

Leptospirosis is an endemic disease in the Caribbean caused by *Leptospira*, a motile bacterium [Bharti AR et al. *Lancet Infect Dis* 2003] spread predominantly during rainy seasons as well as in the urine of infected animals such