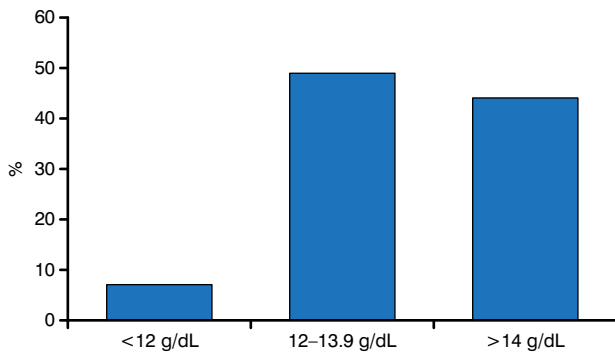




Figure 1. Hemoglobin Concentration Prior to Surgery



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Launched in 2012, the West Indies Cardiac Surgery Registry is an online database in which participation by regional health units in Trinidad and Tobago is voluntary. The Advanced Cardiovascular Institute of Surgical Therapies has entered data from 107 completed cardiac surgical procedures since the registry's inception. This study was an analysis of the 107 entries.

Triple coronary artery bypass grafting was the most common procedure (96% of patients). Three-quarters of the 107 procedures were elective. Nearly all patients (96%) received at least 1 arterial graft, along with a left internal mammary artery graft to the left anterior descending coronary artery.

The majority of the patients (81%) were men. Three-quarters of the patients were South Asian. Ages ranged from 34 to 84 years, and body mass index ranged from 18 to 36 kg/m². The prevalence of diabetes was 50%. Treatment for diabetes consisted predominantly of oral medications to lower blood glucose (63%), followed by insulin (31%) and diet modification (6%).

Smokers constituted almost half of patients, with 14% being current smokers (smoking within the prior year). The majority of the patients (60%) had hypertension. Twenty percent of the total patients had experienced prior coronary events. Five percent of the patients had carotid disease, claudication, or previous stroke or aortic aneurysm. Sixty-four percent of the patients were receiving β -blockers, and 92% were on statin therapy. Prior to surgery, nearly all patients (95%) were not receiving aspirin or clopidogrel bisulfate, and hemoglobin levels exceeded 12 g/dL in $\geq 90\%$ of patients (Figure 1).

According to Dr. Rawlins, this sort of information highlights the value of a surgical registry in general and the West Indies Cardiac Surgery Registry in particular. Clarification of patient attributes is essential to supporting sound clinical decisions.

PCI at the Caribbean Heart Institute

Written by Phil Vinall

The first percutaneous coronary intervention (PCI) was performed in the mid-1970s; however, PCI has been available in Guyana only since 2006. The Caribbean Heart Institute (CHI), a 5-bed inpatient facility with 1 catheterization lab, 1 resident cardiologist, 2 internists, and 12 nurses, was the first center in Guyana to perform PCI. CHI receives referrals from a 215,000-km² area, which can potentially increase the time from symptom onset to revascularization.

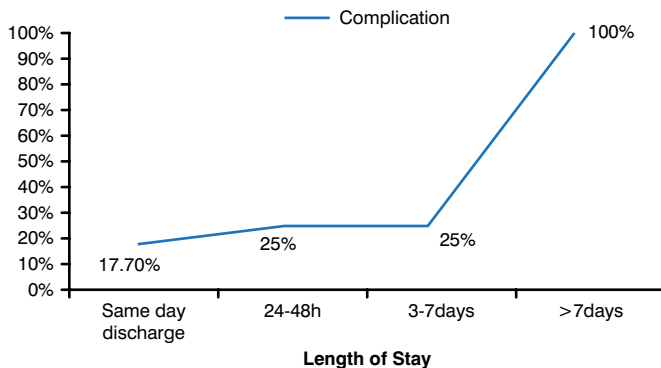
Joel Joseph, MD, CHI, Georgetown, Guyana, presented results of a case series that assessed the clinical outcomes of all cases in whom percutaneous transluminal coronary angioplasty (PTCA) or stenting was attempted between January 1, 2011, and June 30, 2013. The outcomes assessed included death (at hospitalization, and at 30 days and 6 months post revascularization), acute renal failure, arrhythmias, myocardial infarction (MI), blood transfusions, and access site hematomas. Vital status of cases treated with PCI was confirmed either by medical record review or by phone. Death was confirmed by entry into the National Death Registry and cause of death on the death certificate.

Fifty-eight cases (mean age 58 \pm 8 years; men-women ratio, 3:1) received revascularization. The success rate of revascularization (defined as TIMI 3 flow + <25% stenosis post procedure) was 97%. Most cases (61%) had their intervention within 1 day of presentation; 86% were discharged within 2 days of intervention.

One case died after discharge from the hospital. She was a 56-year-old woman with diabetes, hypertension, and congestive heart failure as well as a history of prior PCI (2 years prior). The case was discharged within a day of her intervention, with no documented complications, and she was given a prescription for antiplatelet medication. She died 16 days later after failing to comply with dual-antiplatelet therapy and developing acute stent thrombosis. Of the 58 cases treated, 10 had an arrhythmia, 6 had an MI, and 3 had an access site hematoma. Acute renal failure and blood transfusion were reported in 1 patient each (1.72%). All cases remaining in hospital for more than 7 days had complications (Figure 1).

Periprocedural complications were numerically greater, albeit not statistically significant, in men, cases aged >55 years at the time of intervention, and those undergoing PCI for a ST-segment elevation myocardial infarction. Similarly, cases with >28 days between symptom onset and intervention and those requiring multivessel revascularization had more periprocedural complications, but these were also not significant.

Figure 1. Complication Incidence Increased With Length of Hospital Stay



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This study was limited in that it was a single-center observational study with no controls. There were few events, and it was difficult to confirm information from the records. Despite this, Dr. Joseph concluded that the success rates and outcomes of PCIs done at CHI were acceptable, especially considering the low volume of cases and the recent initiation of the PCI program.

Results of a Stand-Alone PCI Program at Schneider Regional Medical Center

Written by Maria Vinall

Percutaneous coronary intervention (PCI) is a class I recommended therapy for both ST segment elevation myocardial infarction (STEMI) and unstable angina. Traditionally, PCI has been performed in large tertiary centers with on-site coronary bypass surgery programs. Over the past 10 to 15 years, “stand-alone” PCI programs have become more prevalent, particularly in the United States. These programs are imperative for appropriate emergent cardiac care in the Caribbean, where there is a need for expedient treatment that does not require transferring a patient off-island. Geographic, cultural, and financial challenges prohibit routine transfer to tertiary centers in a timely fashion.

The PCI program at Schneider Regional Medical Center (SRMC) consists of a combined cardiac catheterization-interventional radiology laboratory and a single interventional cardiologist. The center services St Thomas and St John, which have a combined population of a little more than 60,000 people. Roy D. Flood Jr, MD, SRMC, St Thomas, USVI, located in the eastern Caribbean, presented results

from a historical cohort of patients treated for STEMI or acute coronary syndrome and those who had abnormal noninvasive screening suggestive of coronary disease at SRMC between January 2006 and June 2013.

SRMC performs percutaneous transluminal coronary angioplasty, coronary stenting, cutting balloon, and thrombectomy. The majority of patients in this review were treated with drug-eluting stents. Most procedures entail guided intravascular ultrasound for diagnostic purposes and evaluation of the stent deployment. Adjunctive pharmacologic agents include clopidogrel, bivalirudin, and eptifibatide. Angio-Seal, which helps cut down on bleeding complications, is used for all closures.

There were 1149 procedures performed during the study period. The types of invasive cardiac procedures are shown in Table 1. There were 337 (97%) acute procedural successes. Complications are shown in Table 2.

SRMC outcome data are similar to those of larger studies. Adverse outcomes, such as myocardial infarction, death, and revascularization, are similar to those of centers where surgery is available on-site. At SMRC, high-risk lesions are generally avoided, but select cases of left main coronary artery PCI and multivessel PCI have been successfully performed.

The program has been largely successful for both acute and elective procedures. Dr. Flood hopes to increase volume and improve his expertise in high-risk procedures.

Table 1. Invasive Cardiac Procedures.

Procedure	No.
Total	1149
Diagnostic only	792
Interventional	347
STEMI	97
Elective PCI	250

PCI=percutaneous coronary intervention; STEMI=ST segment elevation myocardial infarction.

Table 2. Outcomes

Outcome	No. (%)
Acute procedural success	337 (97)
Death	3 (.8)
Acute thrombosis	1 (.2)
Perforation	2 (.6)
Dissection	2 (.6)
Retroperitoneal bleed	1 (.2)