

Preliminary Results of HEARTS

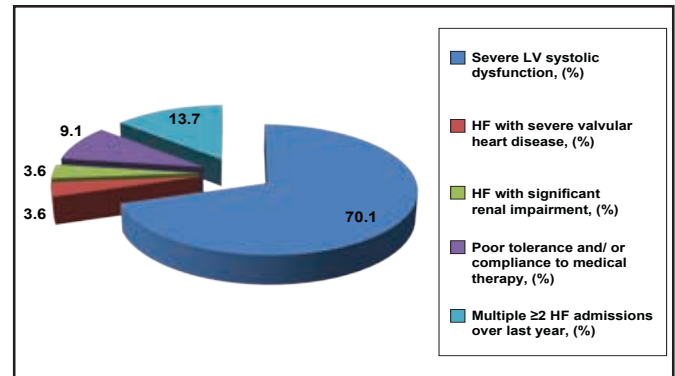
Written by Phil Vinall

The HEart function Assessment Registry Trial in Saudi Arabia (HEARTS) is a nationwide medical registry of heart failure (HF) throughout Saudi Arabia. The goal of the registry is to study practice patterns in the management of patients with acute HF to assess the gap between practice and evidence, to improve the quality of cardiac care that is provided, and to establish heart function clinics across the country that will reduce the morbidity and mortality of HF disease by appropriately managing high-risk chronic HF patients.

Abdelfatah Elasar, MD, King Fahad Medical City, Riyadh, Saudi Arabia, presented the preliminary results for 368 patients from two tertiary care hospitals in Saudi Arabia with established multidisciplinary HF centers. The majority of patients (73.4%) was referred to the HF center by a cardiologist, 9.6% by the emergency department, and 17% by other services. The most common reason for referral was severe left ventricular (LV) dysfunction (70.1%). Other reasons are shown in Figure 1. Almost 50% of patients who were referred to the clinic were aged between 50 and 70 years; however, 34% was >50 years. Most patients were men (71.3%); almost all were Saudi (>95%). The most common traditional risk factor among patients who were referred to the clinic was hypertension (74.7%), followed by ischemic heart disease (41.8%). More than 21% of patients were smokers, 53% had diabetes mellitus, and 57% had dyslipidemia. Associated comorbidities are shown in Figure 2. Implantable cardioverter defibrillators (ICDs) were present in 28.8% of patients and cardiac resynchronization devices were in 8%. Most patients were New York Heart Association (NYHA) class II (36.3%) or III (49.5%). One-half of all patients reported fatigue, one-third peripheral edema, and ~28% orthopnea/paroxysmal nocturnal dyspnea. Only 5.2% reported palpitations. Median (IRQ) sitting systolic blood pressure was 119 mm Hg (range 73 to 213). Median heart rate was 77 beats per minute (range 52 to 154). LV dysfunction was severe in 75.3% of patients.

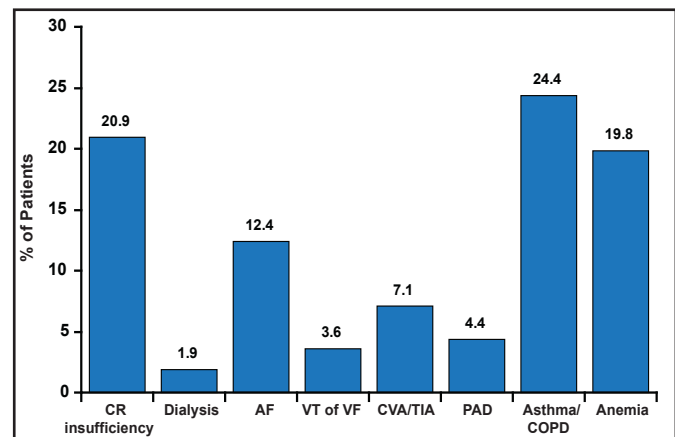
Almost 90% of patients were receiving furosemide, 83% aspirin, 74% statins, 40% digoxin, and 38% nitrates. Most patients were prescribed one or more specific HF medications at admission and at discharge (Figure 3). HF was described as nonischemic dilated cardiomyopathy in 45.6% of patients and ischemic in 38.2% of patients. Only 8.2% of patients were described as having hypertensive heart disease. Of the 368 patients who were referred to the HF clinic, 88% is still alive and 3% has died; 9% has been lost to follow-up.

Figure 1. Reasons for Referral.



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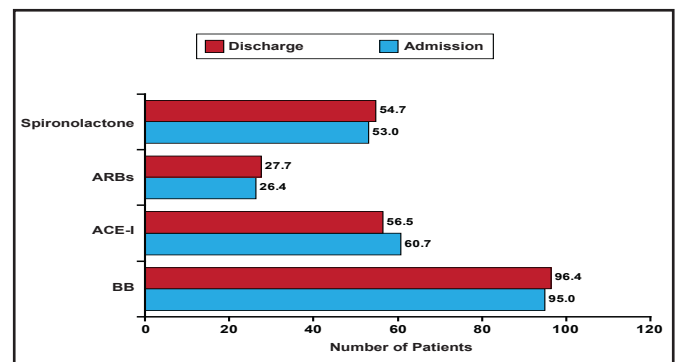
Figure 2. Associated Comorbidities.



CR=cardio renal; AF=atrial fibrillation; VT=ventricular tachycardia; VF=ventricular fibrillation; CVA=cerebral vascular accident; TIA=transient ischemic attack; PAD=pulmonary artery disease; COPD=chronic obstructive pulmonary disease.

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Figure 3. Specific HF Medications.



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Compared with HF patients in developed countries, outpatients with high-risk HF in Saudi Arabia are younger, have much higher prevalence of diabetes mellitus and hypertension, and predominantly have LV systolic dysfunction. The rate of evidence-based therapy use was reasonable, but the ICD/cardiac resynchronization therapy implantation rate was low.

The study is limited by its small sample size, its location in only tertiary care hospitals, and limited geographic representation. Further improvements in management and potential clinical outcomes are yet to be shown with long-term follow-up at the HFC

Additional information about HEARTS is available at: <http://www.hearts-ksa.com/home.html>.

Improving Outcomes in STEMI PCI

Written by Maria Vinall

Rapid myocardial reperfusion is the primary goal in patients with ST-segment elevation myocardial infarction (STEMI), and the extent to which early reperfusion is achieved is the main factor in determining the extent of the early and long-term clinical benefit of treatment. Rajesh M. Dave, MD, Ortenzio Heart Center, Harrisburg, Pennsylvania, USA, reviewed several approaches to improving outcomes in these patients.

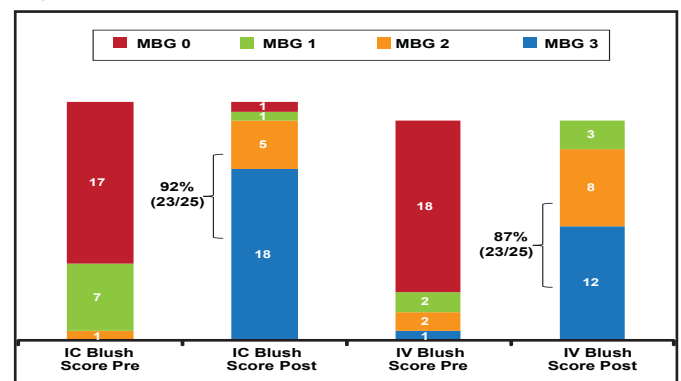
Two methods for achieving reperfusion include percutaneous coronary intervention (PCI) and fibrinolysis. The success of PCI is frequently assessed in terms of ST-segment elevation resolution or return to normal angiographic TIMI (TIMI 3) flow. Dr. Dave suggested that these two measures may not go far enough. He cited myocardial blush grade (MBG), an angiographic measure of myocardial perfusion, which has been shown to be independently associated with mortality [Svilaas T et al. *New Engl J Med* 2008; Kampinga MA et al. *Circ Cardiovasc Interv* 2010], and suggested that MBG should be documented in addition to TIMI flow as a measure of PCI success.

Catheter-based thrombectomy is a newer modality that may improve reperfusion and outcomes in STEMI patients who are treated with urgent PCI. In a pooled analysis of data from more than 2500 patients in 11 clinical trials, Burzotta and colleagues showed that thrombectomy (in particular, manual thrombectomy) significantly improves the clinical outcome in patients with STEMI who are undergoing mechanical reperfusion and that its effect may be enhanced with the addition of potent antiplatelet therapy (eg, GP IIb/IIIa inhibitors) [Burzotta F et al *Eur Heart J* 2009].

Dr. Dave discussed the results of CRYSTAL AMI, a single-center, prospective, randomized, proof-of-concept study of intravenous (IV) abciximab versus intracoronary (IC) abciximab in patients with acute myocardial infarction who were undergoing PCI within 6 hours of symptom onset. All patients received heparin and a 600-mg clopidogrel load. The use of thrombectomy devices was permitted. MBG, TIMI flow, and ST resolution

were evaluated at the end of the procedure, and left ventricular function was evaluated by echocardiography at discharge. Echocardiography was repeated at 30 days, at which time patients also underwent a resting Sestamibi scan. In the IC group 92% of patients achieved the primary endpoint of postprocedure MBG >2 versus 86% of patients who received IV therapy (Figure 1). TIMI flow was also higher among patients who received IC therapy (96%) versus those who received IV therapy (82%). There were no readmissions or deaths in the IC arm versus 2 readmissions and 1 death among patients who received IV therapy. There were no major bleeds in either group.

Figure 1. MGB Score.



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“Improving myocardial preservation in patients presenting with STEMI has profound economic impact through reduced cost of care, improved quality of life, and less need for ICD implantation.” This approach is being further evaluated in the INFUSE-AMI study, a randomized, multicenter, single-blind evaluation of IC abciximab infusion and aspiration thrombectomy in patients who are undergoing PCI for anterior STEMI that is currently recruiting [Gibson CM et al. *Am Heart J* 2011; NCT00976521].

A Comparison of the Safety and Efficacy of BMS and DES for On- and Off-Label Indications: A One-Year Study

Written by Maria Vinall

The effectiveness of drug-eluting stents (DES) in reducing rates of restenosis has led many clinicians to extend their use to patients with clinical and anatomical features that are beyond those that are approved by the United States Food and Drug Administration (FDA). However, the FDA has questioned the safety and effectiveness of this off-label use, citing a potentially increased risk of stent