



## Southern California Heart Specialists

### SoCAL Heart NEWS

Fall 2007

#### Editorial

Southern California Heart Specialists would like to welcome you to our new SoCal Heart News quarterly publication. The field of cardiology is evolving like none other and it is often frustrating for our referring physicians to stay up to date. With the ever expanding media presence it is also imperative for physicians to know what is being portrayed to our patients and help them separate fact from media hype. After talking with several of you we have decided to provide this quarterly update that will focus on "hot" topics of cardiovascular disease. Our aim is to shed some light on these topics and what they truly mean to our patient care.

In our inaugural issue we will provide insight into the ongoing debate of drug eluting vs. non-drug eluting stents. Once again, the media has overstated the risks and understated the benefits. We also offer further evidence that the diagnosis of peripheral arterial disease is grossly underappreciated and how treatment extends beyond interventional procedures to not only save limbs but lives. Other articles will focus on the on-going debate of the benefits of Cardiac CT as well as carotid revascularization. Lastly we will also keep you up to date with the on-going changes in both Huntington Hospital and Arcadia Methodist including their roles as STEMI receiving centers of excellence.

We would also like to take this opportunity to announce the start of our updated website [www.socalheart.com](http://www.socalheart.com). In addition to providing information regarding all of our physicians and services, we are aiming to help streamline care with online forms and patient oriented education material.

We look forward to continually providing the highest standards of care for our community through communication and education. At Southern California Heart Specialists we truly aim to provide comprehensive care for the heart ... from the heart. Enjoy!

Warmest Regards;

Southern California Heart Specialists



#### Debunking the Drug Eluting Stent Hysteria

While drug eluting stents (DES) have proven to be a landmark improvement in coronary revascularization and the prevention of restenosis, they remain a widely debated topic in medicine today. Subacute thrombosis (SAT) is a rare vessel closure that results from a flow limiting thrombus in the stented segment. This can occur in both bare metal stents (BMS) and drug eluting stents in approximately 0.5-0.7% of patients. SAT is a catastrophic event with a reported 30-50% mortality; most cases occurring in the first months after stent deployment, especially if anti-platelet therapy is withdrawn prematurely.

Initial reports suggested an increased incidence of SAT in the DES population, leading to significant criticism and skepticism in the field of cardiology. Heightened emotions and rushes to judgment have clouded this issue, impairing both doctors and the public from truly evaluating the evidence. Interventional cardiologists have felt like the Duke Lacrosse team – "Guilty until proven innocent." Perhaps the biggest culprit in fueling this fiasco has been the misguided reporting in the press maligning DES and claiming inferiority to BMS or medicine alone. Daunting headlines such as "Death Stent", "In Cold Blood", and "Tiny Time Bombs" were shocking readers of the major newspapers and magazines including, Forbes, New York Times, Wall Street Journal and Time Magazine. Even the 2007 Consumer Reports reported that the placement of a drug eluting stent is one of the top ten medical interventions to be avoided. This has resulted in countless worried to hysterical patient phone calls to their cardiologist and great mistrust by the public of the industry and medical community.

At last the evidence is now available to show that DES have the same low incidence of SAT and myocardial infarction (MI), but DES may actually be saving lives. Despite the initial reports of the Swedish Coronary Angiography and Angioplasty Registry showing that at 6 months there was a 0.5% increased risk of mortality with DES compared to BMS, the same group reversed their initial statements at the completion of enrollment showing identical rates of SAT, MI, and mortality. In a 2007 article in Lancet on the meta-analysis of greater than 18,000 patients, there was no difference whatsoever in mortality or SAT, however, the DES arm has a reduced incidence of MI. Then in the October 4, 2007 NEJM, the Ontario group reported on 7,500 post stent patients. There was no difference in re-infarction between groups, and mortality was actually increased in the BMS arm. The conclusion of the study was that DES are effective in reducing the need for revascularization in patients at highest risk for restenosis (diabetes, vessel diameter <3mm, or lesion length >20mm) without an increased rate of death or MI.

Among the many lessons learned from the controversy, it is that the press will prematurely condemn procedures and advances in medicine and create hysteria, without concern for the impact or consequences.

## Debunking the Drug Eluting Stent Hysteria

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We are presently advising that patients with DES take aspirin and clopidogrel (Plavix) for at least one year and in many cases indefinitely. BMS are placed in some subsets of patients particularly with patients at lower restenosis risk, those who cannot take or may need to prematurely stop clopidogrel and in some cases of ST segment elevation myocardial infarction.

The coordinated effort of physicians along with aggressive medical therapy has shaped our treatment of coronary artery disease. DES have taken us to the next level in the reduction of adverse events that plague our nation today and together we can have a substantial impact in our patients well being.

## Peripheral Arterial Disease a Call to Action

While there has been considerable attention to the prompt diagnosis and treatment of coronary artery disease (CAD), very little attention has been given to peripheral arterial disease (PAD). Shockingly, however, the prevalence of the disease is the same as CAD (approx. 12 million patients) and even this is likely dramatically underestimated. Even more surprising, is the 5 year mortality rate of 30%, which is much higher than CAD (21%) or even breast cancer (14%). So why is there not more attention to this disease state? The answer is lack of education.

Until recently, there has been very little emphasis on disease management. It is estimated that of the 12 million patients only 1.5 million will receive some sort of treatment. However, with diabetes and obesity becoming endemic in our society, this must change. The reason for this urgency is that those with the diagnosis of PAD carry a high mortality that is often associated with cardiovascular events.

At the recent European Society of Cardiology meeting analysis from the German Epidemiological Trial on Ankle-Brachial Index (getABI) revealed that this risk extends to not only symptomatic but asymptomatic patients as well. All cause mortality at 5 years was dramatically increased with an abnormal ABI compared to normals regardless of symptoms (Normal ABI: 9.4% Asymptomatic: 19.1% HR 1.6; p<0.001 Symptomatic: 23.9% HR 1.8; p<0.001) Even after risk adjust for other variables, an ABI still remained the best predictor of death, stroke or myocardial infarction.

Thus we must treat patients with PAD as coronary artery disease equivalents. Optimal medical therapy with antiplatelet agents, including ASA and Plavix, as well as aggressive use of statins and ACE-I/ARBs remain the mainstay of treatment to prevent future cardiovascular events. Unfortunately those outside of cardiology who may treat these patients remain uncomfortable prescribing these agents.

While guidelines for the use of ABI suggest all patients greater than 70 years of age or those >50 with diabetes should be evaluated, Medicare currently does not reimburse without the documentation of symptoms.

Peripheral arterial disease is prominent in our patient population. Together we can make great strides to improve symptoms and save lives. We look forward to working with you in our call to action.

## ICD-9 Codes that Support Medical Necessity for Peripheral arterial studies

Arterial Disease including atherosclerosis, claudication, aneurysms, embolism and thrombosis	440.0- 442.9, 443.0-443.1, 443.22, 443.29, 443.81-444.9, 445.01, 445.02 - 448.9
Extremity ulcer	707.10-707.19; 707.8
Gangrene	785.4
Injury to Blood Vessel	903.00 - 904.9
Complications of Procedures or Devices	996.1; 996.62; 996.74; 996.90-996.96; 997.2, 997.79; 998.11-998.13; 998.2; 999.2
Organ or tissue replacement; blood vessel	V43.4

Diagnosis codes are not listed in NHIC Draft LCD nor ABI article. Reference 2006 ICD-9-CM publication.



## Searching For Public Enemy #1



In 1931 Al Capone was considered the biggest public threat in America. Today we recognize the biggest killer to be atherosclerosis, responsible for

more deaths than all cancers combined. According to the American Heart Association (AHA), CAD caused one of every five deaths in the U.S. in 2004, making it the single largest killer of American men and women. This is true, even though the death rate from CAD declined 33% from 1994-2004. Clearly, we still have a lot of work to do!

Current national guidelines recommend we start at prevention by assessing traditional risk factors and calculating 10-year risk with tools such as the Framingham Risk Score (see [www.americanheart.org](http://www.americanheart.org)). The key factors involved are age, cholesterol profile, smoking and blood pressure. A new guideline from AHA (1) endorses CT scans for coronary artery calcium (CAC), if a patient is considered "intermediate" risk. It states, "...coronary artery calcified plaque is both independent of and incremental with respect to traditional risk factors in the prediction of cardiac events." This test measures how much disease is already present in the walls of the arteries, going beyond guessing who might simply be at risk. Since approximately 2/3 of heart attacks occur on "mild" lesions that would be missed on a stress test, CAC is much more informative than a stress test in such patients. It has been called the "mammogram of the heart," since it is meant to detect apparently healthy individuals who are not aware they have the disease. This test is not appropriate for people with known CAD (previous heart attack, stent, bypass, etc.), PAD, diabetes, age > 75, or others considered high risk. However, a large number of men over 45 and women over 55 will benefit from measuring their calcium score to more accurately determine risk and guide therapy. Based on the AHA guideline, in December 2006 Medicare approved coronary calcium screening for reimbursement, when appropriately ordered by a physician.

An important area of research involves using CT scans to get more than a calcium score. Intravenous dye injections can be given to noninvasively look for coronary stenoses ("CT angiogram"). The AHA guideline strongly advises against using this to screen asymptomatic patients, regardless of risk profile. However, they did feel that "in symptomatic patients with low to intermediate likelihood of disease, CT coronary angiography may develop into a clinically useful tool." This is a rapidly developing technology that should become more useful in the near future, although it is not quite "ready for prime time" yet.

As exciting as the high tech tools are, it is critical to remember the basics of controlling risk factors. When these are ignored, medications are of more limited value. In the 52 country INTERHEART study (2) 90% of CAD patients had exposure to one of the following: smoking, abnormal lipids, hypertension, diabetes, abdominal obesity, lack of exercise, low daily fruit & vegetable consumption, alcohol overconsumption and unhealthy stress index. We may not be able to change our age or the genes we inherit, but these 9 modifiable risk factors can all be favorably influenced by the lifestyle choices we make

every day, and are crucial in our battle against public enemy number one!

<sup>1</sup> Circulation 2006 114:1761-1791

<sup>2</sup> Lancet 2004 364:937-952

## Carotid Stenting: Where Do We Stand?

Carotid stenting was approved by the FDA in January 2005 based on high risk registries and the landmark high risk randomized SAPHIRE trial comparing stenting and carotid endarterectomy (CEA). In this trial, carotid stenting was found to be not inferior, and perhaps superior, in terms of major adverse cardiovascular events at 30 days. Another benefit was the lack of cranial nerve palsy and a shorter hospital stay.

Carotid stenting approval, however, remains limited in scope to patients who fulfill specific criteria: 1) high grade stenosis (>70%) 2) symptomatic neurologic event either CVA or TIA correlating with stenosis 3) high risk for CEA. The other approved indication is enrollment into a clinical trial protocol where those with less severe disease and those with asymptomatic disease are being evaluated for the benefit of carotid stenting with a distal protection device.

CEA has long been the gold standard for the treatment of carotid disease among patients at low to moderate risk, and has been found to be successful and durable in this regard. Thus, carotid stenting is limited, for now, to the high risk patient. The dilemma is this: a large number of patients with severe disease are asymptomatic and are at acceptable risk for either procedure; therefore, should these patients have stenting with distal protection or CEA?

The Carotid Revascularization Endarterectomy vs. Stenting Trial (CREST) should look to resolve some of the questions lingering regarding the widespread application of carotid stenting with embolic protection devices. The trial will prospectively randomize 2500 patients, with the primary end point of major adverse cardiovascular events. The trial is scheduled to complete enrollment by 2008 and undoubtedly will shape the management of both symptomatic and asymptomatic carotid artery disease.

<b>CEA High Risk Features:</b>	
Age >80	Radiation to Neck
CHF	Previous Neck Surgery
Severe COPD	High Lesions
CEA restenosis	Severe Bilateral Disease

## Huntington Hospital Catheterization Labs Begin Expansion



Huntington Hospital has broken ground on a 3 phase renovation project to update and expand the cardiovascular service line. Nearing completion is phase one which will bring a new state of the art catheterization suite dedicated for coronary, carotid, peripheral vascular, and electrophysiology procedures. The new flat panel technology represents a significant advance in image quality allowing for more complex interventions. This will allow our cardiovascular specialists to expand their treatment of peripheral vascular, carotid and PFO/ASD closure procedures. In addition, it will provide updated equipment to enhance EP procedures, including atrial fibrillation ablation and device implantation. Phase 1 will also include remodeling of the vascular imaging labs to enhance imaging techniques and improve patient flow. Phase 2 and 3 will also see refurbishment of the initial two catheterization suites to expand space for new state of the art equipment. All of this coincides with the expansion of the ED to provide a high level of acute care for all our patient needs.



## Huntington Hospital and Arcadia Methodist Named Centers of Excellence in Acute MI Care

The saying “time is muscle” has never rang more true in the treatment of acute ST elevation myocardial infarction (STEMI). While the standards of care suggest that time from presentation to an open artery (i.e. door to balloon) be less than 90 minutes, this was rarely accomplished throughout the country. Now, working with the Los Angeles EMS units and the Los Angeles Health Services Department, both Southern California Methodist Hospital and Huntington Hospital have been named STEMI receiving centers in the Los Angeles County, becoming the leaders of care in the San Gabriel Valley. Started on January 1<sup>st</sup> 2007, paramedics who respond to patients perform an in-field 12 lead EKG and, if positive for an STEMI, a protocol is set in motion to bypass less experienced facilities and direct care to these centers of excellence. The results have been astounding, with virtually all patients achieving a door to balloon time of much less than 90 minutes. Current door to balloon averages are <70 minutes, while throughout the country the average is 110 minutes. Cardiologists, ED physicians and the local EMS have all come together to provide comprehensive aggressive care that is saving lives. The importance of educating our patients regarding symptoms of STEMI and to CALL 911 remains crucial in improving the survival of our community. We are proud to be leaders in the advancement of STEMI care.

