C mail

Mount Sinai

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A PHYSICIAN NEWSLETTER OF THE ZENA AND MICHAEL A. WIENER CARDIOVASCULAR INSTITUTE AND THE JOSÉE AND HENRY R. KRAVIS CENTER FOR CARDIOVASCULAR HEALTH

Dr. Jonathan L. Halperin

Dr. Valentin Fuster

Message from the Directors

FREEDOM is coming to the Zena and Michael A. Wiener Cardiovascular Institute and the Marie-Josée and Henry R. Kravis Center for Cardiovascular Health. No, that doesn't mean you can take the afternoon off. It does mean, though, that a new era will soon be dawning in clinical cardiovascular research at Mount Sinai, and with it plentiful opportunities to explore vital issues in coronary atherosclerosis. FREEDOM (Future REvascularization Evaluation in Diabetic patients: Optimal Management of Multivessel Disease) is a large, multicenter clinical trial, sponsored by the National Institutes of Health (National Heart, Lung, and Blood Institute), for which final funding approval is anticipated shortly. This five-year program, with a budget of nearly $30 million, will compare coronary angioplasty using drug-eluting stents against surgical revascularization (coronary bypass surgery) in diabetic patients with multivessel ischemic heart disease (see *C:Mail*, Vol. V, No. 3 April 2002 for background information). The primary outcome measure is based on the incidence of mortality, myocardial infarction, or stroke in the cohort of 2,400 patients—by far the most extensive trial ever to address this specific issue.

The study is expected to begin this year, and preparations are well along to manage the vast amount of clinical data that will accumulate. Aside from the primary outcome, vital information about pathophysiology, health economics, quality of life, and a host of secondary outcomes have been incorporat-

continued on page 2

The Cardiac Consequences of Obstructive Sleep Apnea-Hypopnea Syndrome

Stasia Wieber, M.D.

Obstructive Sleep Apnea-Hypopnea Syndrome (OSAHS) is a common disorder, the most serious complication of which affects the cardiovascular system. OSAHS is characterized by repetitive partial (hypopnea) or complete (apnea) closure of the upper airway during sleep. Repetitive obstruction is associated with arterial oxygen desaturations, surges in sympathetic activity, and/or short awakenings called "electrocortical arousals."

The association between OSAHS and cardiovascular disease was first observed in 1985 (*Annals of Internal Medicine,* 1985). Since then, studies have demonstrated a clear relationship between OSAHS and arterial hypertension (HTN), cardiac arrhythmias, and pulmonary hypertension. Currently, we are learning more about the immunological and vascular effects of OSAHS on the cardiovascular system.

Physicians should suspect OSAHS in patients with snoring and daytime somnolence and in those with unexplained HTN or arrhythmias. Although OSAHS was first described in obese men, the syndrome can affect obese and non-obese people of both sexes.

The diagnosis of OSAHS is made through a sleep study, formally called "nocturnal polysomnography" (NPSG), in which the patient is observed overnight with monitoring of such physiological parameters as the electroencephalogram, eye movements, respiration, heart rate, chest and abdominal movement, oxygen saturation, and muscle activity. The most common and effective therapy is continuous positive airway pressure (CPAP), a form of non-invasive assisted ventilation that acts as a pneumatic splint to keep the airway open.

OSAHS and Hypertension

The prevalence of OSAHS in patients with HTN is 22 – 48 %. The Sleep Heart Health Study (Nieto, *JAMA,* 2000) showed that the risk of HTN increased with escalating degrees of apnea or hypopnea. Nieto found that after adjusting for demographics and anthropometric variables, the odds ratio for hypertension in those with a high number of apneas (>30/ hour) was 1.37 relative to those without apneas. This and other studies have confirmed that OSAHS is an independent risk factor for HTN.

OSAHS causes nocturnal and daytime hypertension. In 1993, Somers described surges in sympathetic discharge in the sural nerve after a nocturnal apneic event. In 1995, he described persistent daytime sympathetic increase in patients with OSAHS. Hypertension in OSAHS is likely mediated by enhanced sympathetic nerve activity. The mechanism is thought to involve stimulation of the peripheral chemoreceptors.

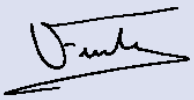
continued on page 2

Directors Message

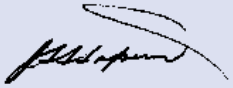
continued from page 1

ed to make this the definitive guide to contemporary invasive management of coronary atherosclerotic disease in diabetics, with broad implications for other vascular territories as well. Many members of the faculty and staff of the Cardiovascular Institute will be closely involved in the FREEDOM project, and you can expect to see a number of new faces coming on board as the program gets up and running. Be sure to watch future issues of *C:Mail* for updates on the progress of the trial.

Beyond this exciting new research program, other changes in cardiology are also afoot at Mount Sinai. Some of these, such as the arrival of new faculty and the expansion of facilities for cardiac catheterization, clinical electrophysiology and noninvasive testing, are discussed in this issue. Several important changes in physician leadership have been announced recently, including the appointments of Dr. Samin K. Sharma as Associate Director of the Cardiovascular Institute for Clinical Affairs, Dr. Davendra Mehta as Director of Cardiac Electrophysiology, and Dr. J. Anthony Gomes as Director of Consultative Services and Senior Consultant in Electrophysiology. These changes reflect an administrative reorganization designed to place senior physicians in key strategic roles as we vigorously pursue recruitments in both clinical areas (*e.g.,* cardiac failure) and basic science (vascular biology and myocardial cell biology). A great deal is in store, as 2004 promises to bring evolution and growth to the Cardiovascular Institute at a pace seldom seen before. You may be assured that we will keep you fully informed in *C:Mail*.



Valentin Fuster, M.D., Ph.D.
Director



Jonathan L. Halperin, M.D.
Associate Director

Obstructive Sleep Apnea-Hypopnea

continued from page 1

These chemoreceptors, which are under neural control, are reset so that daytime hypertension persists.

Pepperell (*Lancet,* 2002) illustrated that treatment of OSAHS with CPAP produces an immediate ("first night") drop in blood pressure. He further demonstrated that blood pressure normalizes during the daytime after one month of therapy with CPAP. It is common to observe that patients with HTN and OSAHS who receive CPAP therapy often need less anti-hypertensive medication and are sometimes cured of hypertension.

OSAHS and Arrhythmias

Even healthy humans are vulnerable to arrhythmias during sleep. Gulleminault (reference) noted 42 episodes of sinus arrest (lasting 2-9 seconds) in healthy adults during sleep. These cardiac events were not associated with OSAHS or significant oxygen desaturation. Those with ischemic heart disease are particularly vulnerable to arrhythmias, ST segment depression and T wave inversion.

Forty-eight per cent of those with nocturnal cyclical bradycardia/tachycardia will have OSAHS. Sinus arrest occurs in 10 % of patients with OSAHS and ventricular tachycardia occurs in 3 - 13 %.

CPAP reduces ventricular irritability in those with OSAHS and central sleep apnea (CSA), the condition where absence of respiratory effort leads to cessation of breathing. Javaheri studied 29 patients with sleep apnea and left ventricular ejection fractions less than 45 %. (*Circulation*, 2001). Eight patients had OSAHS and 21 had CSA. All patients had stable compensated heart failure without changes in medical therapy for four weeks and at least 15 respiratory events per hour during sleep. In 55 % of patients with heart failure and sleep apnea, the first night of CPAP eliminated sleep-disordered breathing and reduced ventricular irritability. Oxygen desaturations and the number of electrocortical arousals were also reduced. It is known that both desaturations and arousals are associated with increased sympathetic nerve activity. Reduction of sympathetic nerve activity likely diminishes ventricular irritability. In addition, improved saturation may improve myocardial oxygen delivery.

Recently, Garrigue (*NEJM*, 2002) reported 15 patients with heart failure and arrhythmia (nine with sinus node disease and six with brady-tachy syndrome) who had permanent atrial-synchronous ventricular pacemakers and underwent three consecutive sleep studies. The first night, devoted to diagnosis, revealed that seven patients had OSAHS and eight had CSA. The patients were randomly assigned to undergo one of two sets of procedures on the second night and the other set on the third night. During one of the two nights, the basic ventricular rate of the pacemaker was programmed at 40 beats per minute to allow the inherent atrial rhythm to manifest itself. During the other night, atrial overdrive stimulation was provided at the mean heart rate from the first night + 15 bpm. Interestingly, when patients had atrial overdrive pacing, there was a reduction of more than 50% in the number of apneas and hypopneas. Although this is a small study, it is intriguing to consider that atrial pacing may be beneficial in those with OSAHS.

Immunological and Vascular Effects of OSAHS

OSAHS affects platelet activation and augments adhesion molecules. These effects may have cardiovascular consequences. Nocturnal spontaneous platelet activation and platelet aggregation are both increased in patients with OSAHS. When CPAP therapy is initiated, there is an immediate decrease in platelet activa-

continued on page 3

Obstructive Sleep Apnea-Hypopnea
continued from page 2

tion and aggregation, suggesting that CPAP may diminish cardiac risk.

Circulating levels of adhesion molecules (ICAM-1, VCAM-1 and E-selectin) are significantly increased in moderate-to-severe OSAHS compared with matched controls. These molecules mediate cellular interactions and the transmigration of circulating leukocytes to the endothelial cells, one of the initial steps in the pathogenesis of atherosclerosis. It has not been determined if CPAP treatment diminishes the levels of these adhesion molecules.

Conclusions

OSAHS causes and exacerbates cardiovascular disease. Hypertension, arrhythmias, and adverse vascular effects are increased in patients with untreated OSAHS. In patients with cardiovascular disease or essential HTN, the diagnosis of OSAHS should be entertained. CPAP therapy reduces cardiovascular risk in these patients.

Cardiac Catheterization Laboratory Open Around the Clock

The Cardiac Catheterization Laboratory is now staffed 24 hours a day, seven days a week, to accommodate patients presenting with acute coronary syndromes who might require urgent coronary intervention. Watch for the next issue of *C:Mail,* or call 212-241-5849 for more information on this new service.

We're Growing

An Update on Expansion and Renovations

Katherine Gandolfo

Catheterization and Electrophysiology Laboratories

A plan to expand the Cardiac Catheterization and Electrophysiology Laboratories was approved by the Board of Trustees, the State of New York has issued a Certificate of Need to proceed, and construction is now under way. Completion is expected in early 2005.

While physicians and their support staff remain either on the fifth floor of the Guggenheim Pavilion or on the contiguous sixth floor of the Klingenstein Clinical Center, administrative staff (with the exception of the Cardiology Computer Center)has been relocated to make room for this project. The secretarial services administration, under the direction of Imelda Samson, has moved to renovated space on the 6th floor of the Atran Building. Billing operations have moved to East 94th Street, both to free up space for the catheterization and electrophysiology laboratory expansion project and to pave the way for a new cardiovascular Patient Financial Services department.

CVI Headquaters

The administrative headquarters of the Zena and Michael A. Wiener Cardiovascular Institute and the Marie-Josée and Henry R. Kravis Center for Cardiovascular Health will be located just inside the Fifth Avenue entrance on the first floor of the west tower of the Guggenheim Pavilion. Renovation of this space is beginning and will take about six months to complete. The new facility will house the executive and administrative staff, a new state-of-the-art noninvasive diagnostic center, additional clinical office space, and a center for executive health. In addition, these new offices will facilitate closer integration of day-to-day functions with the Department of Cardiothoracic Surgery, located right upstairs.

Dr. Fuster Chairs 36th Annual New York Cardiovascular Symposium

One of the largest yearly conferences sponsored by the American College of Cardiology was directed again in 2003 by Dr.Valentin Fuster. International experts in all aspects of cardiovascular disease participated in the Symposium's lectures and panel discussions, which focused on the latest developments in the diagnosis and treatment of coronary artery disease, heart failure, and structural and valvular heart disease. In addition to Dr. Fuster, other Mount Sinai faculty on the program included Drs. Samin K. Sharma, Jonathan L. Halperin, David H. Adams, Michael L. Marin, and Michael Poon. The Symposium was held at the Hilton Towers Hotel on December 19-21, 2003.

Vivian M. Abascal, MD, Joins the Mount Sinai Echocardiography Laboratory

Dr. Abascal started her cardiology career as a Research Fellow at the Massachusetts General Hospital and Harvard Medical School under the direction of Dr. Arthur E. Weyman. She and her colleagues there were the first to develop an echocardiographic score to predict a successful outcome of percutaneous balloon valvuloplasty, thereby facilitating patient selection. The results of these projects were presented in national and international meetings and were published in major cardiology journals such as *Circulation* and the *Journal of the American College of Cardiology*.

During her time at the Massachusetts General Hospital, Dr. Abascal was also the principal echocardiographer for the Boston Area Anticoagulation Trial for Atrial Fibrillation, a randomized trial of low-dose anticoagulation for stroke prevention in patients with non-rheumatic atrial fibrillation. The findings of this large collaborative study were subsequently published in the *New England Journal of Medicine.*

Dr. Abascal earned her medical degree from the Central University of Venezuela in Caracas. After completing the Internal Medicine Residency program at the Memorial Hospital-University of Massachusetts, and cardiology training at the Boston University Medical Center, she joined the Framingham Heart Study in 1995. During her tenure there, she studied the relationship between calcium-channel blocker use and cardiovascular mortality and reported her findings in the *Archives of Internal Medicine*.

In 1997, Dr. Abascal joined the faculty at the University of Kentucky, where she conducted research to identify sources of variability in susceptibility to the triggers of acute myocardial infarction. She was also co-investigator in an epidemiologic study of coronary risk factors in a rural Appalachian region in eastern Kentucky known as "Coronary Valley." The results of this study were presented at a conference sponsored by the National Institutes of Health.

During her tenure at the University of Kentucky, Dr. Abascal was director of the Echocardiography Laboratory and co-director of the Heart Station at the Lexington Veteran's Administrator's Medical Center, an affiliate of the University of Kentucky.

Dr. Abascal now looks forward to continuing her tradition of excellent teaching, clinical care, and clinical research in the Mount Sinai Echocardiography Laboratory.

Members of the CVI Toast the 2003 Holiday Season

(from left) Dr. Alison D. Schecter, Dr. MaryAnn McLaughlin, Mrs. Maria Fuster and Dr. Lori B. Croft at the annual CVI holiday reception in the plaque room of the Guggenheim Pavilion

Cmail,

the physician newsletter of the Zena and Michael A. Wiener Cardiovascular Institute and Marie-Josée and Henry R. Kravis Center for Cardiovascular Health is also available on the Web.

To view previous issues, go to http://www.mssm.edu/cvi/cmail/.

The CVI Hot Spot:
Highlights from the "Controversies in Cardiology" Conference Series

Ram Gordon, M.D.

The most recent session of the monthly Controversies in Cardiology conference focused on the timing of surgery for asymptomatic valvular heart disease. Dr. Valentin Fuster moderated a panel that included visiting professor Dr. Maurice Enriquez-Sarano of the Mayo Clinic, as well as Mount Sinai faculty Drs. David H. Adams, Alan Gass, and Jose Meller.

Timing of surgery for asymptomatic mitral regurgitation

A 61 year-old female comes to your office for evaluation and treatment of significant mitral regurgitation (MR). The patient is asymptomatic. Her cardiac exam reveals a 4/6 holosystolic murmur, an EKG reveals normal sinus rhythm, and her last echocardiogram, performed two years ago, revealed a left ventricle of normal size and function with severe mitral regurgitation, a single ruptured chordae of the mitral valve, partially flail posterior leaflet, high Proximal Isovelocity Surface Area (PISA), and an Effective Regurgitant Orifice (ERO) of 68 mm^2 (above 40 mm^2 is indicative of severe MR).

What is the best approach to the management of this patient?

Mitral regurgitation is the second most common heart valve disease after aortic stenosis. Although there are about 500,000 discharge diagnoses of mitral valve disease annually in the U.S., estimates of the prevalence of MR are confounded by the large number of patients with mild physiological MR detected by echo. The natural history of patients with severe MR is variable and the ideal treatment and timing of surgery for severe MR is controversial. In addition, no medical therapies have been shown to slow the disease process.

In 1998, the ACC/AHA guidelines for the management of these patients clearly outlined indications for mitral valve repair/replacement in patients with symptoms, pulmonary hypertension, and the development of atrial fibrillation or LV dilatation or dysfunction; but made no explicit recommendations for patients with ischemic MR or for patients with chronic, asymptomatic disease, preserved LV function, and sinus rhythm.

In patients with ischemic MR, the historical approach was revascularization without concomitant valve surgery. However, residual significant MR was seen post-operatively in up to 40% of cases and the long-term outcome was poor. Recently, patients undergoing CABG have frequently had concurrent valve repair, since several trials have shown low perioperative mortality, improved ejection fraction and NYHA class, and no symptoms in the majority of patients followed up to 10 years after surgery.

Once a patient is referred to surgery, every effort should be made to repair, rather than replace the valve. Patients undergoing repair have a lower operative mortality, a greater improvement in LV fraction, and a higher overall survival at 10 years. Current data show that successful mitral valve repair can be performed in 85 to 90% of patients with isolated MR.

Patients with normal ejection fractions in sinus rhythm are another group for whom timing of surgery is controversial. According to Dr. Enriquez-Sarano, asymptomatic patients with anatomical evidence of moderate to severe MR (flail leaflet and/or ERO>40 mm^2) without co-morbidities should immediately be considered for surgery. The overall risk of surgery in patients younger than 75 years old is <1% in most experienced centers and low-risk patients who undergo surgery have very low morbidity and no excess mortality compared with the normal expected survival. Also, MR worsens each year that patients are managed conservatively, eventually leading to LV dysfunction and an elevated risk of CHF. Finally, patients with flail leaflet should be considered for early surgery since they have a 90% likelihood of death or operative repair at 10 years of follow-up.

Some patients with severe asymptomatic MR should defer surgery, especially those with valves that are not amenable to repair and patients older than 75 years of age.

Ultimately, the decision to operate is based on individual risk assessment and preferences. The most important parameters to consider are the expectations of successful mitral valve repair, the patient's co-morbidities, the surgeon's experience and safety record, and the patient's preferences. The paradigm of timing of surgery for asymptomatic mitral regurgitation is shifting from waiting until there is documented evidence of ventricular dilation and/or dysfunction to performing pre-emptive surgery in patients with asymptomatic lesions that presage left ventricular dysfunction.

CME Calendar of Events

Continuing medical education is a priority at the Cardiovascular Institute, and these sessions provide an opportunity for faculty and fellows to interact with visiting cardiologists. The institute sponsors nearly 50 lectures, conferences and academic rounds every month, and we invite you to share in these special educational events as often as you can. For information about conference locations or an updated schedule, please contact Ms. Imelda Samson at 212-241-7784 (imelda.samson@msnyuhealth.org).

2004 Program Highlights: Cardiology Conferences

Visiting Professors

January 26, 2004
Jeffrey Borer, M.D.
Cornell University

February 23, 2004
Catherine Otto, M.D.
University of Washington

March 22, 2004
Warren M. Jackman, M.D.
University of Oklahoma

May 3, 2004
Joseph Loscalzo, M.D.
Boston University

May 24, 2004
Kim Eagle, M.D.
University of Michigan

June 21, 2004
Christopher Granger, M.D.
Duke University

Daily/Weekly Conferences

Mondays @ 7:00am
Vascular Surgery/Radiology Conference

Mondays @ 7:45am
CCU Conference

Mondays @ 5:00pm
Grand Rounds/Controversies

Tuesdays @ 12:00 noon
Electrocardiography Conference

2nd, 4th & 5th Tuesdays @ 7:15am
Interventional Cardiology Journal Club
1st, 2nd & 5th Tuesdays @ 7:45am
Catheterization Laboratory Conference

3rd Tuesday of the month @ 7:45am
Electrophysiology Conference

4th Tuesday of the month @ 7:45am
Morbidity and Mortality Conference

Tuesdays – Once a month
Fellows Lunch with Dr. Fuster

1st Wednesday @ 8:00 am
Advance Core Curriculum Topics

1st Wednesday @ 12:00 noon
Adult Congenital Heart Conference

2nd, 4th & 5th Wednesdays @ 7:45am
Imaging Conference

3rd Wednesday @ 12:00 noon
Pathology Conference

3rd Wednesday of the month @ 8:00 am
CVI Clinical Conference

Thursdays @ 7:15 am
Coronary Anatomy Lecture

Thursdays @ 7:45am (varies)
Fellows Rounds with Dr. Fuster

Thursdays @ 12:00 noon
Jose Meller, M.D. – Clinical Cardiology Conference

Fridays @ 7:00 am
Cardiology/Vascular Surgery

1st, 3rd & 5th Fridays of the month at 7:15 am
Hemodynamics Rounds

Alternate Fridays @ 7:45am
Journal Club

Alternate Fridays @ 7:45 am
Research Seminar Series

Milestones

Born to cardiology faculty David A. Vorchheimer, M.D. and his wife Rachel, their third child, a boy Joshua Aaron Vorchheimer on October 28, 2003. Joshua joins two sisters, Hannah Sara and Emma Rose.

Transitions

Marrick L. Kukin, M.D. has assumed the position of Director of Heart Failure at the St. Luke's-Roosevelt Hospital Center

Jeffrey Alexis, M.D. has joined the faculty of the University of Rochester as Assistant Professor of Medicine

Michael Poon, M.D. has assumed a position as Director of Cardiology at the Cabrini Medical Center in Manhattan

Tom H. Karson, M.D. has become Chief Medical Information Officer at Continuum Health Partners.

New Faculty Members

Dr. Valentin Fuster and new members of the the CVI family. (front row from left) Drs David J. Harnick, Roxana Sulica, Johnny Lee (middle row) Adam B. Rosenbluth,Vivian M. Abascal (back row) Kothandaraman Purushothaman, Pedro R. Moreno, Meerani Purushothaman

Pedro R. Moreno, M.D. has joined Mount Sinai as Associate Professor of Medicine (Cardiology). A world-renowned expert in high-risk atherosclerosis, Dr. Moreno has conducted research demonstrating that inflammation plays a dual role in atherosclerosis, contributing to both plaque rupture and coronary thrombosis. Dr. Moreno was previously Associate Professor of Medicine at the University of Kentucky College of Medicine and Director of the Cardiac Catheterization Laboratory at the Veterans Administration Medical Center in Lexington, Kentucky. After receiving his medical degree from Javeriana University in Bogota, Columbia, Dr. Moreno completed several clinical and research fellowships in cardiology at Harvard Medical School. He has been honored by numerous cardiology societies.

Vivian M. Abascal, M.D. has been appointed Assistant Clinical Professor of Medicine (Cardiology). Formerly Assistant Professor of Medicine at the University of Kentucky Medical Center, Dr. Abascal was also Co-director of the Cardiovascular Women's Health Clinic in the Gill Heart Institute at the University of Kentucky, and Co-director of the Heart Station and Echocardiography Laboratory at the Veterans Administration Medical Center in Lexington. She received her medical degree from the Universidad Central de Venezuela, Caracas, and completed several clinical and research fellowships in medicine, cardiology, and cardiovascular epidemiology at Harvard Medical School and Boston University Medical School. She specializes in topics related heart disease in women and to echocardiography.

Kothandaraman Purushothaman, M.D. has joined Mount Sinai as Assistant Professor of Medicine (Cardiology). He was previously Director of Histology in Dr. Pedro Moreno's Cardiovascular Research Laboratory at the University of Kentucky. Dr. Purushothaman earned his medical degree from Madras University in India and completed his post-doctoral training in pathology at Madras Medical College and Jawaharlal Nehru Institute in India. His research focuses on a range of areas related to atherosclerosis and plaque.

Meerani Purushothaman, Ph.D. has been appointed Assistant Professor of Medicine (Cardiology). She was most recently a research scientist in the molecular and cell nutrition group at the University of Kentucky. She received her doctorate in biochemistry at the University of Madras in India. Her postdoctoral research work has focused on endothelial cells in the study of nutrition and atherosclerosis.

Roxana Sulica, M.D. has joined the faculty as Instructor in Medicine (Cardiology). She received her medical degree at the Carol Davila University of Medicine and Pharmacy in Bucharest, Romania, and completed clinical and research fellowships in pulmonary/critical care medicine and in pulmonary hypertension at Mount Sinai. Her research interests focus on pulmonary hypertension.

Adam B. Rosenbluth, M.D. has been appointed Clinical Instructor in Medicine (Cardiology). Dr. Rosenbluth received his medical degree from Cornell University Medical College and completed a fellowship in cardiovascular medicine at Mount Sinai. In July, he entered private practice and remains involved in cardiac imaging at Mount Sinai.

David J. Harnick, M.D. joins Mount Sinai as Clinical Instructor in Medicine (Cardiology). Dr. Harnick received his medical degree from Mount Sinai, where he also completed fellowships in cardiology and cardiac electrophysiology. He entered private practice in July as a member of the voluntary attending staff.

Johnny Lee, M.D. has been appointed Clinical Instructor in Medicine (Cardiology). After receiving his medical degree from Mount Sinai, Dr. Lee completed several cardiovascular fellowships at Mount Sinai. He is the co-author of the handbook, *Cardiology at a Glance* (McGraw Hill, 2002) and several other publications and active in the American Heart Association. In July, Dr. Lee opened a private practice.

Tien H. Nguyen, M.D. has been named Clinical Instructor in Medicine (Cardiology). He received his medical degree from New York Medical College and completed several fellowships at Saint Vincent Catholic Medical Centers of New York. Before joining the voluntary attending staff at Mount Sinai, Dr. Nguyen served as Chief of Cardiology at St. Clare's Hospital and Medical Center and as Clinical Instructor of Medicine at New York Medical College. His interests include percutaneous coronary intervention. Dr. Nguyen is co-founder, with Dr. Lee, of New York Heart Associates, PC.

Cardiovascular Institute Telephone Numbers

Area	Contact Person	Telephone: 212-
Institute Director	Valentin Fuster, M.D., Ph.D.	241-7911
Adult Cardiology Services	Jonathan L. Halperin, M.D.	241-7243
Administrator	Katherine Gandolfo	241-4030
Ambulatory Care	Amrita Malik	241-5586
Cardiac Care Center	Nancy Rodenhausen	241-8095
Cardiac Health Program	Patty Brownstein, R.N.	241-8597
Cardiac Telemetry Unit	Ira S. Nash, M.D.	241-3282
Cardiothoracic Surgery	David H. Adams, M.D.	241-8181
Catheterization Laboratory	Samin K. Sharma, M.D.	241-5849
Coronary Care Unit	David A. Vorchheimer, M.D.	241-4040
Development	Stephanie Steel	373-4940
Echocardiography	Martin E. Goldman, M.D.	241-1719
Electrophysiology/Pacemakers	Davendra Mehta, M.D., Ph.D.	241-6075
	Jorge L. Camunas, M.D.	241-8181
Fellowship Training	Eric H. Stern, M.D.	241-4025
Heart Failure/Transplantation	Alan Gass, M.D.	241-5213
Magnetic Resonance Imaging	Zahi A. Fayad, Ph.D.	241-6858
Nuclear Cardiology and Stress Testing	Milena J. Henzlova, M.D.	241-1718
Pediatric Cardiology	Ira A. Parness, M.D.	241-8662
Positron Emission Tomography	Josef Machac, M.D.	241-7888
Pulmonary Hypertension	Roxana Sulica, M.D.	241-3913
To Transfer a Patient		1-800-TO SINAI
Research Laboratories	Juan Jose Badimon, Ph.D.	241- 8484
Vascular Laboratory	Jeffrey W. Olin, D.O.	241-6773
Vascular Medicine	Jeffrey W. Olin, D.O.	241-6773
Vascular Surgery	Michael L. Marin, MD	241-7646
Women's CARE	Maryann McLaughlin, M.D.	241-3340

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