

## MALEAH GROVER-McKAY SELECTED BY E&R FOUNDATION FOR 7TH TETALMAN MEMORIAL AWARD

**M**aleah Grover-McKay, MD, is "destined to accomplish notable advances in nuclear medicine," according to Ralph J. Gorten, MD, president of The Society of Nuclear Medicine (SNM) Education and Research (E&R) Foundation, which selected Dr. Grover-McKay for the Seventh Tetalman Memorial Award.

Early in her career, Dr. Grover-McKay established herself as an astute investigator in cardiology. She now plans to use a variety of nuclear medicine procedures in her quest to measure regional myocardial blood flow and to detect the presence and extent of jeopardized and/or viable myocardium.

The E&R Foundation annually selects the most promising nuclear medicine investigator under the age of 36 for the Tetalman Memorial Award. Dr. Grover-McKay received a plaque and a \$2,500 award last month during the SNM 34th Annual Meeting in Toronto, Canada.

### Expanded Nuclear Cardiology

Dr. Grover-McKay, director of the Nuclear Cardiology Exercise Laboratory at the Veterans Administration (VA) Medical Center in Long Beach, California, joined that institution in 1986. "She quickly expanded the cardiology component of the Nuclear Medicine Service, and is working to develop PET [positron emission tomography] capabilities here," said Victor F. Froelicher, MD, chief of the Cardiology Section at the Long Beach VA.

She has written several research grants and participated in numerous other research activities, noted Dr. Froelicher. "Of particular interest, she designed a randomized trial of

patients with multivessel disease—comparing those who undergo coronary artery bypass surgery with those who undergo percutaneous transluminal coronary angioplasty (PTCA), evaluated with computerized tomography," he added. At the 34th Annual Meeting, Dr. Grover-McKay presented a study of tomographic thallium-201 imaging in patients treated with PTCA (Abstract No. 312, *J Nucl Med* 1987; 28:631).

### "Avalanche" Probe

Dr. Grover-McKay has submitted requests to investigate one of the new technetium-99m-labeled heart agents for blood flow studies, and the indium-111-labeled antimyosin antibody for characterizing the extent of acute myocardial infarction. She also plans to investigate the feasibility of an "avalanche" radiation detector, or probe—a device developed at the Long Beach VA by Vincent Gelezunas, PhD, and Kenneth P. Lyons, MD, chief of the Nuclear Medicine Service. "The aim for the future will be to design an avalanche probe small enough to enable the measurement of regional myocardial perfusion during cardiac catheterization," explains Dr. Grover-McKay.

"Dr. Grover-McKay is a valuable addition to our laboratory," said Dr. Lyons. "Her energy and inspiration make her an ideal collaborator, and she is destined for an outstanding career in academia. Through her clinical judgment and tireless dedication to patient care, she has earned the admiration of her peers and the gratitude of her patients," he added.

Born in Los Angeles, California, Dr. Grover-McKay received both her BA (1972) in Human Biology and her MD (1977) from Stanford University.



Maleah Grover-McKay, MD

After completing a residency in internal medicine at the University of California at Los Angeles (UCLA), she became a research fellow at the Cardiovascular Research Institute of the University of California at San Francisco (UCSF).

"Soon after her arrival, Dr. Grover-McKay became interested in work then under way on the three-dimensional dynamic geometry of the heart using observations taken with implanted tantalum screws, and she performed analyses using ideas from the theory of linear transformations. She dove into the experimental work and mastered many complex techniques for instrumenting the dogs and obtaining data. It was largely through her efforts that we were able to complete the work (*1*)," said Stanton A. Glantz, PhD, chairman of the Bioengineering Graduate Program at UCSF.

### Mastered Applied Mathematics

"Maleah did not content herself simply with doing experimental work in support of theoretic work she did not understand. She worked through

two books on matrix algebra and attended a class on applied mathematics so she could truly understand what we were doing. Few people with her background would have been willing to attempt such a task, much less master it," added Dr. Glantz.

In a subsequent project, Dr. Grover-McKay defined her own research problem and designed a series of experiments to investigate how pacing from different sites alters the dynamic geometry of the heart (2).

From 1983 to 1985, Dr. Grover-McKay worked in the Department of Radiological Sciences at UCLA, where she completed the requirements for specializing in nuclear medicine. Concentrating on myocardial blood flow and metabolism, Dr. Grover-McKay used thallium-201 scintigraphy and PET, with various substrates and short-lived radionuclides, for several investigations—including a study of the effect on free fatty acid metabolism of pacing-induced ischemia in patients with coronary artery disease (3). In a group of patients with acute myocardial infarction, PET studies with fluorine-18 fluorodeoxyglucose were used to distinguish reversibly ischemic tissue (with enhanced glucose metabolism relative to blood flow) from irreversibly ischemic tissue (with concordant decreases in blood flow and glucose metabolism). She also investigated myocardial blood flow and metabolism in patients with hypertrophic cardiomyopathy and found that myocardial glucose utilization is relatively decreased in the hypertrophied septum compared with the normal lateral wall (manuscript in preparation).

Last year at the SNM 33rd Annual Meeting in Washington, DC, Dr. Grover-McKay was the first author of a UCLA group that received a Gold Medal Award for a scientific exhibit that demonstrated the ability of rubidium-82 PET imaging to reveal reductions in segmental myocardial blood flow, corresponding to areas supplied

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by stenosed coronary arteries, in both canine hearts and patients.

“Dr. Grover-McKay has performed excellent research in cardiovascular nuclear medicine, and I am certain she will continue to do so,” said Heinrich R. Schelbert, MD, professor of radiological sciences at UCLA.

#### Enjoys Challenge

“Diagnostic tests in cardiology provide information about electrical events, anatomy, and function,” says Dr. Grover-McKay, adding that she enjoys the challenge of combining her expertise in cardiology and nuclear medicine. “Often, what we really want to know are regional myocardial blood flow and tissue viability. In patients, nuclear medicine procedures provide the best method for making these determinations.”

Current imaging agents and techniques cannot always answer the questions being asked, notes Dr. Grover-McKay. “The excitement lies in investigating how best to answer scientific and clinical questions, especially when that research leads to the discovery of new questions that no one previously thought to ask,” she explains.

When she accepted the Tetalman

Memorial Award, Dr. Grover-McKay said: “Nuclear medicine is a relatively new specialty with unique characteristics. Our job includes integrating knowledge in fields that encompass physics, computer sciences, chemistry, tracer kinetic modeling, and medicine. In medicine alone, the nuclear medicine physician must integrate clinical, anatomic, and physiologic information. Competent interpretation of these facts is of tremendous importance to patient care. Research continues to identify and validate procedures which will improve this impact. Being involved in nuclear medicine is a special challenge, a challenge to be met by expanding knowledge and by doing so with energy and enthusiasm.”

Dr. Grover-McKay is an assistant professor of medicine and of radiological sciences at the University of California at Irvine. She became a diplomate of the American Board of Internal Medicine (ABIM) in 1981, and was board-certified in the ABIM Subspecialty of Cardiovascular Diseases in 1983. One year later, she became a diplomate of the American Board of Nuclear Medicine.

The Tetalman Memorial Award honors the memory of Marc Tetalman, MD, a highly respected and productive 35-year-old nuclear medicine investigator and clinician who was killed during a robbery attempt at the SNM Annual Meeting in 1979.

*Linda E. Ketchum*

#### References

1. Walley KR, Grover M, Raff GL, Bengt JW, Hannaford B, Glantz SA: Left ventricular dynamic geometry in the intact and open chest dog. *Circ Res* 1982;50:573-589
2. Grover M, Glantz SA: Endocardial pacing site affects left ventricular three-dimensional contraction pattern and performance in the intact anesthetized dog. *Circ Res* 1983;53:72-85
3. Grover-McKay M, Schelbert HR, Schwaiger M, et al: Identification of impaired metabolic reserve in patients with significant coronary artery stenosis by atrial pacing. *Circulation* 1986;74:281-292