New Research Aims to Help People With Blood Cancers

A unique method of increasing the number of cord blood stem cells used to treat patients with blood cancers and blood disorders, such as sickle cell anemia, is being readied for clinical trials at the Icahn School of Medicine at Mount Sinai, with an $8.8 million grant from the New York State Stem Cell Science Program (NYSTEM).

The stem cells—also known as hematopoietic stem cells—are derived from the vein of the umbilical cord and help renew and replenish blood cells. They represent the only potential therapy for blood cancer patients who do not respond to chemotherapy. The new method is necessary to compensate for the limited number of stem cells that are typically found in blood cord collections and the fact that using stem cells from two or more blood cord collections is generally not a viable option because the blood cells are not identical.

A research team led by Ronald Hoffman, MD, Albert A. and Vera G. List Professor of Medicine (Hematology and Medical Oncology), and Director of the Myeloproliferative Disorders Research Program, continued on page 4.

Advances in Heart Failure Research and Clinical Care

Mount Sinai scientists and clinicians are making notable advances in the study and treatment of heart failure, a common condition that occurs when the heart becomes too weak to pump and circulate enough blood through the body. Diseases that damage the heart—such as coronary artery disease, high blood pressure, and diabetes—can lead to heart failure, which develops over time as the heart’s pumping action grows weaker. It impacts an estimated 5 million adults and children in this country.

In a recent study, investigators from the Icahn School of Medicine at Mount Sinai found that a powerful drug candidate, a small molecule known as N106, was able to improve the pumping ability of heart muscle cells that had been damaged by heart failure. The molecule was tested in human heart cells and animals, and the study’s
findings were published online on Friday, June 12, in Nature Communications. The study was a collaborative effort between Mount Sinai’s Cardiovascular Research Center and the Experimental Therapeutics Institute.

“This first-in-class small molecule targets a known cellular pathway, improves heart failure cell abnormalities, and may provide an essential future treatment for these patients,” says Roger J. Hajjar, MD, Director of the Cardiovascular Research Center, and the Arthur and Janet C. Ross Professor of Medicine, who led the study. “Our research team will drive the development of this new class of agents to enable the launch of the first clinical trials to test this promising medicine in heart failure patients.”

Treatment with N106 appeared to increase heart muscle contraction, which resulted in the improved ability to pump blood. Specifically, N106 may counter heart failure by directly docking to and activating an enzyme, E1 ligase, which turns up the function of another, SERCA2a (Sarcoplasmic Reticulum Calcium ATPase). SERCA2a is a critical protein responsible for the proper flow of charged particles, such as calcium, in and out of heart muscle cells, which is needed to drive muscle contraction. Abnormal calcium cycling and decreased expression of SERCA2a in heart muscle cells is a major hallmark of heart failure, forcing the heart to work harder and grow larger, even as it weakens. This research builds upon Dr. Hajjar’s previous work in targeting dysregulated calcium cycling proteins for the treatment of heart failure.

“Our new discovery of the promising compound N106 is a very exciting milestone for greater precision and targeted therapies for this debilitating condition,” says Robert J. DeVita, PhD, Director of Medicinal Chemistry Core, Experimental Therapeutics Institute. “There is a critical need for novel targets and treatment strategies for heart failure.”

In mild cases, heart failure can be treated with lifestyle modification or daily medication. In severe cases, patients may need surgical intervention for survival: mechanical support, such as a left ventricular assist device, or a donor heart transplant. The cost of heart failure care is an estimated $32 billion in the United States each year.

Among key symptoms for heart failure are shortness of breath and tiredness, the result of fluid build-up in the lungs, continued on page 3

Sean P. Pinney, MD, was recently named the first Director of Heart Failure and Transplantation for the Mount Sinai Health System. He will also continue to serve as Director of Advanced Heart Failure and Transplantation at The Mount Sinai Hospital and Associate Professor of Medicine (Cardiology) at Icahn School of Medicine at Mount Sinai, where he has led a number of clinical trials in heart failure, cardiac transplantation, and mechanical circulatory support.

In his new role, Dr. Pinney will help to expand, integrate, and coordinate inpatient and outpatient heart failure and heart transplantation patient care services across the Mount Sinai Health System.

A key responsibility will be instituting and overseeing the use of standardized evidence-based medical protocols and quality metrics, an effort aimed at reducing avoidable readmissions, enhancing the overall patient experience, and improving clinical outcomes.

Says Dr. Pinney, “As one of the largest health systems in New York and also the nation, this new role comes at a pivotal time given the growing regional and national epidemic of heart disease.”
ankles, feet, legs, and other areas of the body. Frequently, these conditions lead to hospitalization, which is what 54-year-old Julie Bailey faced in March, when fluid retention in her lungs left her unable to walk. Ms. Bailey, who was living with heart failure for 24 years, had been hospitalized twice in the last two years.

Raymond Bietry, MD, Assistant Professor of Medicine (Cardiology), Icahn School of Medicine at Mount Sinai, had a solution: in addition to diet changes and tobacco cessation, he recommended a new heart failure monitoring device that would help to detect symptoms earlier, a strategy aimed at reducing hospital admissions and improving quality of life.

Ms. Bailey recently became the first patient at Mount Sinai to receive the dime-sized CardioMEMS™ sensor, a device—which requires no batteries or leads—that is placed directly inside the heart during a minimally invasive procedure. The device monitors for increases in pulmonary artery pressures, early indicators of worsening heart failure. Patients transmit their daily pressure readings to their medical team, who have the ability to provide individualized and real-time care when there are abnormalities.

Ms. Bailey recalls that the first time she transmitted the data, a member of Dr. Bietry’s staff called to inquire what she had eaten that day, suspecting that her answer would likely help explain the increased pressures they had noted. After revealing she had eaten a Greek salad with salty olives and cheese, she was reminded to select foods with less sodium.

Ms. Bailey is reassured by the greater level of communication and personalized care. “My doctors can monitor me wherever I am,” she says. “I’m having a moment of success.”

“Noted Surgeon, Writer Delivers Lecture on “Being Mortal”

Before a capacity audience in Stern Auditorium that included faculty, staff, students, and the public, Atul Gawande, MD, MPH, noted surgeon, writer, and public health researcher, recently presented a professional overview—yet highly personalized account—of modern medicine’s impact on how we age, and die, in the twenty-first century. His speech, titled “Being Mortal,” based on his book, Being Mortal: Medicine and What Matters in the End, was delivered as the 2015 Annual Douglas West Memorial Lecture, an event sponsored by Mount Sinai’s Lilian and Benjamin Hertzberg Palliative Care Institute.

Dr. Gawande, Professor of Surgery at Harvard Medical School, and Health Policy and Management at Harvard School of Public Health, recounted how lessons learned as a medical student and accomplished surgeon collided with new experiences caring for aging family members.

“I learned about a lot of things in medical school, but mortality was not one of them,” he told listeners. “In medicine, we see our job as keeping you healthy.” Yet he viewed it as a flawed mission as patients and loved ones approached death. He observed that in the middle of the twentieth century, “Most of us died in our homes. By 1990, 85 percent of us died in institutions, mostly the hospital, and then the nursing home.”

Added Dr. Gawande, “We’ve had a 50-year experiment in medicalizing mortality… making it all about your disease, and what we can direct in the care towards it—not about well-being—and I think that that experiment failed.” To the audience that included many palliative care champions from Mount Sinai, he added: “It’s about what matters most to us...that we have as good a life as possible all the way to the very end.”

“My doctors can monitor me wherever I am. I’m having a moment of success.”

– Julie Bailey, Patient

The full lecture is available at mountsai.org/palliative.
A New Approach to Increasing Cord Blood Stem Cells (continued from page 1)

Icahn School of Medicine at Mount Sinai, has pioneered a method that promises to significantly increase the number of stem cells in blood cord collections.

“I was ecstatic when we received the grant earlier this year,” Dr. Hoffman says. “It provides a unique opportunity to take something that we’ve developed in the lab and move it into the clinic.” A leader in stem cell research, Dr. Hoffman’s earlier studies of human hematopoietic stem cells and progenitor cells in myeloproliferative neoplasms have led to therapeutic advances.

Research and clinical trials funded by the NYSTEM grant will be carried out over four years in partnership with AllCells, LLC, and NeoStem Inc., two companies that specialize in cellular therapy. The clinical trials will establish whether Dr. Hoffman’s novel cell expansion method can be safely replicated with human cord blood cells.

NYSTEM aims to foster New York State’s role as a leader in health care by funding promising programs that accelerate scientific knowledge about stem cell biology and the development of therapies and diagnostics that improve human health.

“Our goal is to take everything we’ve done at lab scale and see if we can make this into a process that will meet the standards of the U.S. Food and Drug Administration (FDA),” says Dr. Hoffman.

In the final step of research for the grant, Dr. Hoffman says his team expects to collaborate with a stem cell transplant group at The Mount Sinai Hospital to write clinical protocols to submit to the FDA that would allow the potentially lifesaving technique to be used in humans.

“We are very excited to have this opportunity to work with Dr. Hoffman to move this technology into large-scale production and clinical trials soon,” says Jay Tong, MD, President and CEO, AllCells, LLC.
Mount Sinai Queens Community Health Fair Draws 900 Attendees

Mount Sinai Queens and the United Community Civic Association co-hosted a daylong neighborhood health fair at Kaufman Astoria Studios on Saturday, June 6, attracting some 900 attendees. Mount Sinai Queens staff offered a wide range of free health screenings, including glucose, cholesterol, blood pressure, asthma, and osteoporosis. They also measured body mass index and provided information on weight control, stress management, and smoking cessation and prevention. Attendees enjoyed free, healthy snacks from the hospital chef, family fun activities, and entertainment.

Physicians Honored at Annual Spring Dinner

Mount Sinai Beth Israel’s Medical Board recently held its annual Spring Physician Dinner at the Manhattan Penthouse on Fifth Avenue. The event honors Beth Israel physicians or trustees for their dedication and contributions to the hospital. This year, the dinner honored five physicians who have served Mount Sinai Beth Israel for more than 50 years: Morton Davidson, MD; Ira Friedman, MD; James Rubin, MD; Joshua Verona, DDS; and David Woldenberg, MD. Kenneth L. Davis, MD, President and Chief Executive Officer, Mount Sinai Health System; and Dr. Ruggiero serves as Chair of the Mount Sinai Roosevelt LGBT Employee Resource Group. They encouraged guests to reach out to colleagues and friends and become involved in Mount Sinai’s LGBT Employee Resource Groups or hospital site councils.

Reception for LGBT Pride

The Mount Sinai Health System’s Office for Diversity and Inclusion hosted its second annual systemwide Wine and Cheese Reception for LGBT Pride Month at Mount Sinai Roosevelt on Thursday, June 11. The event drew faculty, staff, students, and community partners who mingled and learned more about Mount Sinai’s LGBT services and activities from Barbara Warren, PsyD, Director, LGBT Programs and Policies, Office for Diversity and Inclusion; Tracy Breen, MD, Chief Medical Officer, Mount Sinai Roosevelt; and Joseph Ruggiero, PhD, Addiction Institute of New York, Mount Sinai Roosevelt.

Dr. Breen and Tim Day, Chief Operating Officer, Mount Sinai Roosevelt, are Co-Chairs of the Mount Sinai Roosevelt Diversity Council, and Dr. Ruggiero serves as Chair of the Mount Sinai Roosevelt LGBT Employee Resource Group. They encouraged guests to reach out to colleagues and friends and become involved in Mount Sinai’s LGBT Employee Resource Groups or hospital site councils.

From left: Tracy Breen, MD; Tim Day; Matthew Baney, Administrative Director, Institute for Advanced Medicine, Mount Sinai Health System; Carla Moscoso, Director, Practice Operations, Mount Sinai Queens; Stuart Cunningham, Finance Manager, Network Development, Mount Sinai Health System; Josabeth Diaz, Administrative Assistant; and Brian Angelos, Director of Finance, Ambulatory Care, Mount Sinai Health System.

From left: Joshua Verona, DDS, Attending, Division of Dental Medicine; David Woldenberg, MD, Assistant Clinical Professor, Medicine (Cardiology); James Rubin, MD, Division Chief, Clinical Immunology and Allergy; Ira Friedman, MD, Attending, Department of Surgery; Morton Davidson, MD, Attending, Department of Medicine; and Caner Dinlenc, MD, FACS, President, Medical Board of Mount Sinai Beth Israel, who presented the crystal awards.
**EVENT**

ICD-10 Town Hall

Staff is invited to join the Program Management Office and project leaders for updates and a discussion of the ICD-10 implementation.

Wednesday, July 1
10 – 11 am
The Mount Sinai Hospital Campus
Hess Center, Davis Auditorium

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**ANNOUNCEMENT**

**2016 Conference Center Requests**

The Conference Center for The Mount Sinai Hospital campus will begin taking requests for the 2016 calendar year on Monday, July 13, starting with departmental grand rounds and medical student training rounds. On Monday, July 20, the Conference Center will begin taking all other requests for the 2016 calendar year.

For an updated listing of rooms, visit http://intranet1.mountsinai.org. On the top of the page, select the "Other Services" tab, then under "Employee Services," select the "Conference Center" link. Select "Institutional Space" for a listing of rooms. Note: Requests submitted with missing information, such as fund number or department code, will not be accepted and will delay processing of a request.

Monday, July 13 (Grand Rounds/Training Rounds)
Monday, July 20 (All other requests)