

## Sylvester News

❖ The FDA is allowing Dendreon, the manufacturer of Provenge, to expand production by more than double to increase availability of the intravenously injected treatment for prostate cancer. Provenge uses a patient's own cells to stimulate the body's immune system to fight the cancer. The process of making Provenge involves the introduction of a patient's immune cells to a protein that functions as a prostate cancer associated antigen (a substance that causes the body to react with an immune response), activating the patient's immune cells against prostate cancer cells to help the immune system better fight the disease.

Every dose of Provenge is made specifically for the individual patient. Each of a patient's three doses is preceded by a cell collection procedure called leukapheresis, the selective removal of leukocytes from the blood, which is then transfused back into the donor. Once these immune cells are collected at a Dendreon-authorized cell-collection center, a process that takes about 3 to 4 hours, they are shipped to a Dendreon manufacturing facility, where they are combined with a protein that is found in most prostate cancers linked to an immune stimulating agent. The cells are then returned to a physician to be delivered via intravenous infusion. This entire process must be performed three times over four weeks. **(Note: Sylvester Comprehensive Cancer Center is one of the sites able to provide Provenge to appropriate prostate cancer patients.)**

❖ **Dr. Joseph Rosenblatt**, interim director of the Sylvester Comprehensive Cancer Center, says the reduction in the rate of some cancers is mostly due to lifestyle changes, especially people not smoking. On cutting the death rate, Rosenblatt noted that "we have evolved better screening, better diagnostics and better classification of cancers and better treatments. We are beginning to see significant decreases." On the other hand, "we really don't have a good explanation for why childhood cancers have increased," Rosenblatt said. But most of the rise is in leukemias, so "the good news is that most leukemias are curable in children."

Rosenblatt expects to see even fewer cancer deaths in the future. "The treatments on the horizon are extraordinary." This change is being brought about by better understandings of how different cancers work, he said, and then developing targeted treatments.

## Cancer News

❖ Both smoking and exposure to secondhand smoke appear to increase the risk for breast cancer among postmenopausal women, new research shows. Although earlier studies had found little or no connection between breast cancer and smoking, as more women smokers reach menopause the connection may be surfacing for the first time, experts noted.

❖ High levels of "good" cholesterol may reduce the risk of colon cancer. Cutting "bad" (LDL) cholesterol and increasing "good" (HDL) cholesterol already are known to reduce the risk for heart disease, and a new study provides another reason to pay attention to your blood cholesterol numbers.

❖ Taking the breast cancer drug tamoxifen for the recommended five years protects women from breast cancer recurrence better than a two-year course of the drug. It also shields some women from cardiovascular disease, new research finds. The cancer protection and heart-disease risk reduction were noted 15 years after starting treatment, according to a recently published study.

❖ The odds that a second cancer will develop after radiation treatment for a first cancer are relatively low, U.S. National Cancer Institute researchers report. In a long-term study of more than 600,000 cancer survivors, an estimated 8 percent of second cancers were attributable to radiation treatment for the original cancer, according to the study. The results suggest that other factors, such as lifestyle risks and genetics, cause the majority of second cancers. "The findings can be used by physicians to really put the risks into perspective when they are

talking treatment options with their patients," said the lead researcher.

❖ Taking aspirin even once per month, whether low-dose or full strength, appears to be associated with a marked drop in the risk of developing pancreatic cancer, new research reveals. Specifically, taking full-strength aspirin once monthly was linked to a 26 percent reduction in the risk of pancreatic cancer. Taking low-dose aspirin, to reduce the risk of heart disease, was associated with an even greater drop (35 percent lower) in pancreatic cancer risk. The findings are from a team led by Dr. Xiang-Lin Tan, a research fellow at the Mayo Clinic in Rochester, Minn.

❖ Some breast cancer survivors fear that eating foods containing soy will increase the risk of a cancer recurrence, but new research suggests that soy food intake [not soy supplements] among breast cancer survivors is safe and may reduce the risk of recurrence."

### *UHealth/Miller News*

❖ **Dr. Raymond J. Leveillee**, professor of urology, member of Sylvester's Prostate, Bladder and Kidney Cancers Site Disease Group, and chief of the Division of Endourology, Laparoscopy and Minimally Invasive Surgery, performed a single-incision nephrectomy on a patient using the SPIDER® surgical system. Dr. Leveillee was just the second surgeon in the U.S. to perform the procedure.

Laparoscopy is a minimally-invasive surgical option that can be performed for a variety of conditions via tiny dime-sized incisions, with less post-operative pain for patients. It involves the placement of a camera and narrow instruments into working ports that are positioned through small incisions in the skin.

SPIDER surgery, which stands for "Single Port Instrument Delivery Extended Reach," is a new procedure that is only available at a handful of medical centers in the United States. While traditional laparoscopic procedures involve using three or four incisions, the SPIDER instrument does the same thing through a single incision. Once inserted into the abdomen, the surgeon can open the system -- much like an umbrella -- and perform the procedure, manipulating the tiny instruments to bend and move in a wide range of motion. When the surgeon completes the procedure, the system can be closed

and removed through the same small incision.

❖ University of Miami cardiologists have reported success in a small, preliminary human clinical trial of a new stem cell therapy they hope someday will routinely mend human hearts and reduce the need for lifelong medication, even for transplants.

**Dr. Joshua Hare**, director of the UM Miller School's Interdisciplinary Stem Cell Institute and lead author of the study, stressed that the current trial is only a small, run-up phase of extensive testing that will take up to five years and involve dozens of hospitals and hundreds of patients before winning U.S. Food and Drug Administration approval for routine use.

The trial was primarily about the safety of the procedure, and all eight patients came through without significant side effects, Hare said. The procedure reduced the size of hearts swollen by previous heart attacks (cardiomyopathy) up to 25 percent, while current therapies, including medication and pacemakers, typically reduce the size by only about 5 percent. The reduction in swelling increases the heart's ability to pump blood, he said. In the study, stem cells were taken from the patient's own bone marrow and injected by catheter into scar tissue in the patient's heart caused by an earlier heart attack.

Of prime interest to cardiologists: some of the stem cells became heart muscle and also triggered the heart to produce more of its own stem cells, which became new heart muscle as well.

❖ **Dr. Ramzi Younis**, professor of pediatrics and chief of pediatric otolaryngology, performed endoscopic surgery to remove a rare tumor, a juvenile nasopharyngeal angiofibroma, from the sinus cavity of a teenage boy. Dr. Younis performed the surgery through the boy's nasal passage, leaving no visible scar.

❖ A group of research institutions including the University of Miami, in the biggest such study to date, has identified four new genes implicated in causing Alzheimer's disease. The development signals a "monumental breakthrough" that could lead to identification of nearly all suspect genes in three to five years, said Dr. Margaret Pericak-Vance, director of the John P. Hussman Institute for Human Genomics at UM, who led analysis of the genes for the Miller School. The breakthrough could lead to better-targeted medicines and lifestyle changes to

fight Alzheimer's, researchers believe.

## *Other*

❖ The use of virtual colonoscopies at U.S. hospitals is on the increase, even though the procedure is not covered by Medicare, a new study finds. Also referred to as computerized tomographic colonography (CTC), virtual colonoscopy provides doctors with a 3-D image that enables them to conduct an evaluation of the entire colon and rectum. CTC is an alternative to colonoscopy for colorectal cancer screening.

❖ The American Heart Association (AHA) is urging doctors to treat more aggressively the worst cases of potentially life-threatening blood clots that form in the the legs' deep veins. These clots can break loose and travel to the lungs, causing a pulmonary embolism, which can be fatal. The AHA is recommending aggressive treatment with clot-busting drugs, the insertion of catheters in blood vessels to open them up and for certain patients, surgery to remove clots and insertion of filters in the vein to prevent new clots from traveling to the lungs.

❖ In a finding that contradicts earlier research, an international study suggests that being obese boosts the likelihood of a heart attack or stroke regardless of where the excess fat is stored in the body. This study shows that if you're overweight you're at risk. While excess fat level does remain a very important risk ... it is enough to look at cholesterol, blood pressure, diabetes and smoking background, regardless of the patient's obesity status."

❖ A low-cost screening test may make it feasible to screen all school-aged children for heart conditions that can lead to sudden cardiac arrest (SCA). The study involved 400 healthy children and teens aged 5 to 19 who were screened using a medical family history questionnaire, a physical exam, an EKG and an echocardiogram. Previously undiagnosed heart abnormalities were found in 23 children, while high blood pressure was found in an additional 20. Ten,

or 2.5 percent, of the 400 children had potentially serious heart conditions. None of those 10 had a family history of SCA.

❖ Exercise offers a number of benefits for people with arthritis, including: increasing muscle strength and endurance to improve joint stability; preserving and restoring joint motion and flexibility; and boosting aerobic conditioning to improve mental health and decrease the risk of other diseases.

All arthritis sufferers can benefit from stretching to increase range of motion around an affected joint. Arthritis sufferers may also want to try light weights a few times a week to build muscle strength and low-impact aerobic exercise such as walking. Other good exercises can include water aerobics, stationary cycling, gardening, swimming, yoga and Tai-Chi.

❖ The world's first anatomically and genetically detailed map of the biochemistry of two normal adult human brains has been completed by U.S. scientists, who said their achievement might lead to new treatments for a number of brain diseases. The team at the Allen Institute for Brain Science used leading-edge technology and took more than four years to complete the project.

The mappings revealed a 94 percent similarity between human brains, and also showed that at least 82 percent of all human genes are expressed in the brain. The findings provide the foundation for the Allen Human Brain Atlas, an online public resource available to researchers. The atlas identifies 1,000 anatomical sites in the human brain, along with more than 100 million data points that indicate the particular gene expression and underlying biochemistry of each site.

Researchers will be able to use the atlas in a number of ways, including examining how disease and injury affect specific areas of the brain. They'll also be able to pinpoint where a drug acts in the brain, which could help improve outcomes for a number of therapies.

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