Sylvester News

❖ The risk of breast cancer, for women who have at some time been bothered by hot flashes and other menopausal symptoms caused by lower estrogen levels, may be reduced as much as 50 percent, researchers from the Fred Hutchinson Cancer Research Center in Seattle report.

Breast cancer oncologist **Dr. Stefan Gluck**, a professor at the University of Miami's Sylvester Comprehensive Cancer Center, said this study "is another small, but important piece in our mosaic in understanding breast cancer." The study confirms the suspicion that high levels of estrogen increase the risk of breast cancer, he added. "But we did not have proof that if [women] had less estrogen they have less breast cancer."

The reduction in risk is substantial, Gluck said. "At age 50 a woman has, on average, a 2 percent risk of getting breast cancer, so if she experiences menopausal symptoms the risk is suddenly only 1 percent." Similarly, an 80-year-old woman has a 14 percent risk of developing breast cancer, Gluck said, but if she had menopausal symptoms, her risk is cut to only 7 percent.

Cancer News

❖ The capture of a single cancer cell lurking among a billion healthy ones has the potential to transform care for many types of cancer, especially breast, prostate, colon and lung. There is a test now on the market to find tumor cells in blood, but it gives only a cell count. There is, however, a new test that uses a microchip that resembles a lab slide and is covered in 78,000 tiny posts, like bristles on a hairbrush. The posts are coated with antibodies that bind to tumor cells. When blood is forced across the chip, normal cells ping off the posts, but the cancer cells stick and stains make them glow so researchers can count and capture them for study. The test can find one cancer cell in a billion or more healthy cells. Researchers know this because they spiked blood samples with cancer cells and then searched for them with the chip.

Initially doctors want to use the test to try to predict and determine quickly what treatments would be best for each patient's tumor. Ultimately, the test may offer a way to screen for cancer besides mammograms, colonoscopies and other less-than-ideal methods used now.

❖ A new ultrasound technique is proving valuable in distinguishing malignant from benign breast lesions in some patients – results that could mean fewer unnecessary breast biopsies, a new study shows. Ultrasound elastography, which indicates tissue softness, can help predict cancer in patients because it significantly improves the differentiation between benign and malignant tissue.

❖ Prostate cancer patients who routinely engage in modest amounts of vigorous physical exercise appear to lower their risk of dying from their disease, new research suggests. Three hours a week or more of vigorous biking, tennis, jogging or swimming seems to improve the prognosis among such patients, the research team found. But they added that even moderate physical activity appears to lower the overall risk of dying from any cause.

The researchers noted that although prostate cancer is the most common cancer among American men, more than 80 percent of prostate cancer patients have localized disease, and the 10-year survival rate post-diagnosis is upwards of 93 percent. The upshot is that more than 2 million American men are prostate cancer survivors.

❖ Colorectal cancer is the second highest cause of cancer deaths in the USA, and the third most common adult cancer. In many cases, people only know they have the disease when it has already advanced. David Ahlquist, M.D., a Mayo Clinic gastroenterologist believes screening rates are low because current procedures involve a great deal of inconvenience for the patient. Ahl-quist and team are assessing an experimental

DNA stool test that can identify DNA alterations in cells linked to the presence of tumors – the genetic alterations that come from pre-cancerous or cancerous lesions that are shed into the stool. The investigators identified 65% of precancerous adenomas larger than 1 cm as well as 85% of cancers. The DNA test creators, Exact Sciences, say additional human trials will

probably take place in 2011.

❖ Researchers from McGill University's Cancer Research Centre, the Dana-Farber Cancer Institute and Harvard Medical School have discovered a gene signature that can accurately predict which breast cancer patients are at risk of relapse, thereby sparing those who are not as risk from the burdens associated with unnecessary treatment.

❖ Each year in the United States more than 10,000 people are diagnosed with laryngeal cancer. Those who smoke and drink alcohol are at a greater risk, according to the National Cancer Institute. Laryngeal cancer is most commonly treated with radiation therapy alone or in combination with surgery or chemotherapy. But photodynamic therapy offers some patients another option.

It is a good alternative to radiation and surgery for early stage lesions. It can preserve function and allow us to reserve use of radiation therapy and surgery – both known to have more functional impairment on vocal cord function – should the cancer recur following photodynamic therapy," says study lead author Melissa L. Somers, M.D., with the Department of Otolaryngology-Head and Neck Surgery at Henry Ford.

Photodynamic therapy works by destroying deadly cancer cells without harming surrounding healthy tissue. It uses a powerful laser and a nontoxic, light-activated drug called PHOTOFRIN. The laser activates the drug, causing a reaction in the cancer cells and destroying them. Since photodynamic therapy does not damage the underlying tissue, it not only allows for multiple treatments, but also for it to be given prior to or following other therapies, and when radiation therapy fails. At this point, however, there is not a consensus in research literature as to which treatment – surgery, radiation therapy or photodynamic therapy – produces the best outcome for voice preservation.

❖ Researchers from Laval University in Quebec, Canada reviewed 190 clinical trials of breast cancer treatments and found that quality of life (QOL) measures should be included in clinical trials of metastatic breast cancer treatments when a minimal survival difference is expected, or when treatments have substantial differences in toxicity, the researchers said.

❖ Researchers have discovered that by developing a drug that blocks WWP2 – a rogue gene that is the main culprit causing cancer to spread by destroying the body's natural defenses against cancers – the body's naturally-produced inhibitors will thrive and keep cancerous cells at bay. This understanding of how cancer spreads and operates is a breakthrough, and if a drug were to be developed that deactivated WWP2, conventional therapies and surgery could be used on primary tumors with no risk of the disease taking hold elsewhere.

When a cancer does spread from its original site to another area of the body, it is termed metastatic cancer. The treatment of metastatic cancer depends on where the cancer started. When breast cancer spreads to the lungs, for example, it remains a breast cancer and the treatment is determined by the tumor's origin within the breast, not by the fact that it is now in the lung. About 5 percent of the time, metastases are discovered but the primary tumor cannot be identified. The treatment of these metastases is then dictated by their location rather than their origin.

❖ Breast-feeding may help reduce some long-term negative side effects of cancer treatment in women who survived childhood cancer, according to a new study. The analysis revealed that breast-feeding can have a positive impact on a mother's bone mineral density, metabolic syndrome risk factors, cardiovascular disease and secondary tumors – health factors that are all negatively affected by childhood cancer. The researchers concluded "...women who have survived childhood cancer and are physically able to breast-feed should be actively encouraged to do so to help protect them against the many lasting effects of cancer treatment."

❖ Researchers at the Georgia Institute of Technology are working with a medical device firm to design a prototype treatment system that would use magnetic nan-oparticles engineered to capture cancer cells. Added to fluids removed from a patient's abdomen, the magnetic nanoparticles would latch onto the free-floating cancer cells, allowing both the nanoparticles and cancer cells to be removed by magnetic filters before the fluids are returned to the patient's body.

Although you can remove the cancer, cancer cells sloughing off into the abdominal cavity can spread the disease. The removal system being developed may reduce the number of free-floating cancer cells enough to slow tumor progression so that other treatments, and the body's own immune system, could keep the disease under control.

❖ Scientists are reporting discovery of a potential biochemical basis for the apparent cancer-fighting ability of broccoli. They found for the first time that certain substances called isothiocyanates (ITCs), found in broccoli and other cruciferous vegetables, appear to target and block the tumor suppressor gene p53 when it has mutated and no longer keeps cells healthy by preventing the abnormal growth that is a hallmark of cancer. Those mutations occur in half of all human cancers.

The scientists studied the effects of certain naturally-occurring ITCs on a variety of cancer cells, including lung, breast and colon cancer, with and without the defective tumor suppressor gene. They found that ITCs are capable of removing the defective p53 protein but apparently leave the normal one alone. Drugs based on natural or custom-engineered ITCs could improve the effectiveness of current cancer treatments or lead to new strategies for treating and preventing cancer.

UHealth/Miller News

❖ Women suffering from both diabetes and depression have a twofold increased risk of dying, especially from heart disease, a new study suggests. Commenting on the study, **Dr. Luigi Meneghini**, an associate professor of clinical medicine and director of the Eleanor and Joseph Kosow Diabetes Treatment Center at the Diabetes Research Institute of the University of Miami Miller School of Medicine, said "The study highlights that there is a clear increase in risk to your health and to your life when you have a combination of diabetes and depression." Meneghini noted there are many diabetics with undiagnosed depression, so patients and doctors need to be more aware that depression is an issue.

Although statins help reduce the risk of heart disease and ischemic stroke, where a clot blocks a blood vessel in the brain, it is unclear whether statins also benefit patients who have had a hemorrhagic (bleeding) stroke.

Dr. Ralph L. Sacco, president of the American Heart Association and chairman of neurology at the University of Miami Miller School of Medicine, said that the recent guidelines from the American Heart Association recommend statins after ischemic stroke. "We believe that people with a lobar hemorrhage are at greater risk of bleeding from a variety of drugs, possibly including statins," he said. "It is not routine that we would start a statin after intracerebral hemorrhage."

❖ Researchers examined data from the INTERHEART study to examine whether having a parental history of heart attack, increased a person's risk of having the same experience. They concluded that parental history nearly doubled a person's risk of future heart disease. But Dr. Sacco has noted that "Heart attack risk has many important environmental as well as genetic components." For this reason, he said, "Patients with a parental history of heart disease need to be more diligent about managing their symptoms."

❖ Research indicates that a stress management program may be an effective way to lower the risk of initial and recurrent heart attacks. In addition, Sacco said that managing blood pressure, blood cholesterol, and blood sugar levels, while being active, quitting smoking, managing weight and eating a proper diet will help anyone reduce the risk of heart disease.

Other

❖ The one-dose chickenpox vaccine dramatically cut the number of chickenpox-related hospitalizations in the United States for the first half of the past decade, according to a new study. And a second study has found that the two-dose version of the vaccine, first recommended by the U.S. Centers for Disease Control and Prevention in 2006, may offer youngsters even better protection.

❖ Doctors should use antibiotics and a wait-and-see approach when treating repeated throat infections in children and resort to a ton-

sillectomy only in the most severe cases, new medical guidelines suggest. A panel of experts formed to address the costs and risks of unnecessary surgical removal of the tonsils found that most children with frequent sore throats get better without surgery.

❖ A new study suggests that secondhand smoke, an avoidable risk factor, poses a substantial and long-term risk to the cardiovascular welfare of young children. The researchers noted that high blood pressure is the prime risk factor for heart disease. According to the American Cancer Society, about 46,000 nonsmoking Americans die from heart disease each year as a result of living with smokers and the secondhand smoke they produce.

❖ Doctors administering deep brain stimulation to control a patient's severe pain, report that they discovered the treatment consistently lowered the man's hard-to-control high blood pressure. The finding introduces the possibility that deep brain stimulation – a surgical implant that delivers electrical pulses to the brain – might one day become a treatment for drug-resistant hypertension, or lead to clues about the brain's role in regulating blood pressure.

❖ In a new report, researchers combined and analyzed the results of nine studies, involving 34,485 people aged 65 years and older, which measured how fast people walked, among other things, and then followed them for as long as 21 years to see what happened to them.

The researchers found that walking speed was directly related to survival: People who walked faster tended to live longer, and the opposite was also true. Predictions based on gender, sex and walking speed were as accurate as those that largely relied on whether someone had medical conditions, high blood pressure and problems such as obesity.

All Information published in The Pap Corps FYI issues is excerpted from communications furnished by
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