A scientist in the Department of Surgery and colleagues at The Ohio State University Comprehensive Cancer Center have found that a tiny gene molecule can be used to distinguish pancreatic cancer from noncancerous tissue. The molecule may also help doctors predict the survival of patients with pancreatic cancer, the study suggests.

In the study, researchers examined pancreatic cancer cells for tiny molecules called microRNA (miRNA). The findings show that relative levels of certain miRNAs can distinguish pancreatic cancer from nearby noncancerous tissue and from inflamed pancreatic tissue.

The research results were published in the May 2 issue of the Journal of the American Medical Association.

“Our findings suggest that miRNAs might help detect the disease earlier and differentiate it from noncancerous conditions,” says first author Dr. Mark Bloomston, assistant professor of surgery in the Division of Surgical Oncology.

“We also found that we could predict which patients would do better or worse, based on a just a few miRNAs. Such correlations with survival have previously been lacking in pancreatic cancer,” Bloomston says.

The research is significant because pancreatic cancer is so deadly. This year, more than 37,000 people in the United States will be diagnosed with pancreatic cancer, and more than 33,000 will die of the disease, making it the fourth-leading cause of cancer death in both men and women.

The number of deaths nearly equals the number of new cases because the disease is difficult to diagnose, which leads to late diagnosis and poor patient outcomes. In addition, there have been few treatment advances.

For the study, Bloomston and his colleagues examined tumor samples from 65 patients with adenocarcinoma of the pancreas, the most common form of the disease.

They extracted miRNA from isolated tumor cells and from adjacent noncancerous pancreatic tissue. In addition, they isolated miRNA from the pancreatic cells of people who had undergone surgery for chronic pancreatitis, an inflammation of the pancreas often associated with pancreatic cancer.

Perhaps surprisingly, the miRNAs that could discriminate between long- and short-term survivors were not among those specific to pancreatic cancer.

“These miRNAs have not been studied much, so we don’t know how important they will ultimately be,” Bloomston says. “Our findings are really just a starting point. Now we and others need to validate the role of these molecules in pancreatic cancer and to study what they do.”

MicroRNAs, first discovered less than 15 years ago, help control the type and quantity of proteins that cells naturally make, by modifying other genes. Research over the past few years has shown that miRNAs also play an important role in cancer. More than 300 different human miRNAs have been identified so far.

Funding from the National Cancer Institute supported the research.

Bloomston joined the faculty of the Department of Surgery last year. The molecular biology of pancreatic cancer is his principal research interest.
Dr. Ginny L. Bumgardner, professor of surgery in the Division of Transplantation, has been named associate dean for research education in the College of Medicine. The appointment was effective Jan. 1.

In the position, a new administrative post in the College, Bumgardner is responsible for developing and directing education and training in research for undergraduate, graduate, and medical students, and residents, fellows, and faculty throughout the College.

“Our vision is that through a College of Medicine Office of Research Education, we will be able to develop and coordinate the education and training opportunities that will prepare our future leaders in biomedical research,” Bumgardner says.

A faculty member and an active clinician, educator, and researcher in the Department of Surgery since 1993, Bumgardner has been involved in research education in the department as a faculty research advisor for undergraduate students, medical students, M.D./Ph.D. students, surgical residents, and postdoctoral fellows, and as director of its Master of Medical Science Program.

In the College of Medicine, she serves as a research mentor and dissertation advisor for the Medical Scientist Program (www.ibgp.org/mdphd) and the Integrated Biomedical Science Graduate Program (www.ibgp.org). She also serves on the operations committee of the Medical Scientist Program and as a member of the medical school admissions committee.

In her research laboratory, Bumgardner is involved in studies that seek to answer questions relevant to transplant immunobiology, using experimental models of pancreatic islet and liver cell transplantation. She holds a number of active research grants, including a National Institutes of Health grant to pre-condition pancreatic islets for intrahepatic transplantation. Her research has resulted in more than 100 published journal articles.

A fellow of the American College of Surgeons, Bumgardner served from 2003 to 2006 as an elected member of the board of directors of the American Society of Transplantation and is chairperson of the ad hoc work force committee of the American Society of Transplant Surgeons. She is a member of many other professional societies, including the Central Surgical Society and the Society of University Surgeons. She serves on the editorial boards of the American Journal of Transplantation and Transplantation and as a reviewer for numerous journals. She is a grant reviewer for a number of organizations, including the National Institutes of Health, with expertise in clinical transplantation, cell transplantation, transplant immunology, and liver immunobiology. She has received many honors and awards.

“In this new position, I’d like to work with other departments and entities within the College of Medicine to learn the needs of their students, residents, fellows, and faculty in order to enhance, develop, and facilitate access to research-based curricula appropriate to educational level, career path, and clinical interests,” Bumgardner says. “I also want to work on ways to develop consistent funding for residents, fellows, and faculty to take advantage of the Master of Medical Science Program, because currently no dedicated funding exists to support student stipends.”

Bumgardner says she also hopes to develop programs and activities that foster a lifelong passion for learning and investigation.

“It’s important that students are immersed in a research education environment from very early on, so that research isn’t something they experience through a onetime encounter,” she says. “In order to solve increasingly complex problems, students need to have at their fingertips research tools that enable them to address problems in a scientific way. Everybody we train in medicine should be equipped at some level to address the challenges that will confront them in the future.”

Bumgardner says she is looking forward to working with many people in her new position, including Caroline C. Whitacre, Ph.D., vice dean for research in the College of Medicine, and Catherine R. Lucey, M.D., vice dean for education in the College.
APPOINTMENTS

Specialists join Surgery faculty

Seven surgeons recently joined the faculty of the Department of Surgery at Ohio State University Medical Center.

Dr. Simon Bergman, previously a resident in general surgery at McGill University, in Montreal, Canada, in July began a one-year appointment as clinical assistant professor of surgery in the Center for Minimally Invasive Surgery, specializing in advanced laparoscopic techniques.

Dr. Bergman received his medical degree and a master of science degree in experimental surgery at McGill University.

Dr. Lynn Happel, previously a resident in general surgery at the University of California, San Francisco, in Fresno, Calif., in July began a one-year appointment as clinical assistant professor of surgery in the Center for Minimally Invasive Surgery, specializing in advanced laparoscopic techniques.

Dr. Happel received her medical degree at the University of Missouri, in Kansas City, Mo.

Dr. Alan E. Harzman, previously a fellow in colon and rectal surgery at Baylor University Medical Center, in Dallas, in July began an appointment as assistant professor of surgery in the Division of General and Gastrointestinal Surgery, specializing in colon and rectal surgery.

Dr. Harzman received his medical degree at Washington University, in St. Louis. He completed his residency in general surgery at the University of Texas Southwestern Medical Center, in Dallas.

Dr. Louis B. Louis, previously a fellow in cardiothoracic surgery in the Department of Surgery at Ohio State, in July began a one-year appointment as clinical assistant professor of surgery in the Division of Cardiothoracic Surgery, specializing in mechanical circulatory support.

Dr. Louis received his medical degree and completed a residency in general surgery at the University of Miami.

Dr. Jason C. Roland, previously a resident in surgery at George Washington University, in Washington, D.C., in July began a one-year appointment as clinical assistant professor of surgery in the Center for Minimally Invasive Surgery, specializing in advanced laparoscopic techniques.

Dr. Roland received his medical degree at the University of Maryland School of Medicine, in Baltimore.

Dr. Pankaj Tiwari, previously a fellow in reconstructive microsurgery at M.D. Anderson Cancer Center, in Houston, in August began an appointment as assistant professor of surgery in the Division of Plastic Surgery.

Dr. Tiwari received his medical degree at New York University School of Medicine. He completed residencies in general surgery and plastic surgery at Baylor College of Medicine, in Houston.

Dr. William A. Wallace, Jr., previously a resident in plastic surgery in the Department of Surgery at Ohio State, in July began an appointment as assistant professor of clinical surgery in the Division of Plastic Surgery.

Dr. Wallace received his medical degree at the University of Oklahoma, in Oklahoma City. He completed his residency in general surgery at Ohio State, where he also received a master of science degree in surgery.
DEPARTMENT OF SURGERY

Graduates, teachers honored; new house staff begin training

Barrett recognized as top resident

Outstanding teachers and the graduates of the training programs in the Department of Surgery for the 2006–07 academic year were honored June 15 at the department’s annual awards banquet.

Department faculty named general surgery chief resident Dr. Matthew S. Barrett Resident of the Year. General surgery interns Dr. David C. Evans and Dr. Maakan Taghizadeh shared the Intern of the Year award.

Teaching Awards

Dr. Richard B. Fries, chief resident in general surgery, was recognized by the medical students for outstanding teaching by a resident.

Dr. John P. Bollins, a fellow in surgical critical care, and Dr. Jordana L. Soule, a fellow in transplantation, shared the award for outstanding teaching by a fellow, bestowed by the residents in general surgery.

Dr. Scott B. Armen, assistant professor of surgery in the Division of Critical Care, Trauma, and Burn, was recognized by department residents and fellows for outstanding teaching by a faculty member.

Dr. Blair D. Vermilion, associate professor of clinical surgery in the Division of General Vascular Surgery, was honored by the medical students for outstanding teaching by a faculty member.

Timothy F. Dunlea, R.R.T., a respiratory therapist in the School of Allied Medical Professions, was recognized by the chief residents in general surgery for outstanding teaching by faculty or staff from another department.

Medical Student Awards

Department of Surgery faculty honored four senior medical students for exceptional performance and dedication to surgery.

Jeffrey Johnson received the Jonasson Award in Surgery.

Roger D. Johnson received the Ferguson Award in Surgery.

Keri E. Lunsford received the Zollinger Award in Surgery.

Jonathan B. Mitchem received the Carey Award in Surgery.

Graduates

Twenty-two Department of Surgery residents and fellows completed their training programs in June.

Dr. Osama H. Al-Saif completed the fellowship in surgical oncology and began an appointment as attending surgeon at King Fahd Specialist Hospital, in Dammam, Saudi Arabia.

Dr. L. Grier Arthur III completed the residency in pediatric surgery and began an appointment as assistant professor of surgery at Drexel University, in Philadelphia.

Dr. Nnamdi Azie completed the fellowship in general vascular surgery.

Dr. Matthew S. Barrett completed the residency in general surgery and began an appointment as a general surgeon at Henry County Memorial Hospital, in New Castle, Ind.

Dr. John Bollins completed the fellowship in surgical critical care and began an appointment as a trauma surgeon and surgical intensivist in Duluth, Minn.

Dr. Lloyd G. Brown completed the master of medical science program and is continuing the residency in general surgery in the Department of Surgery at Ohio State University Medical Center.

Dr. Kevin O. Delaney completed the residency in general surgery and began a hand fellowship at the University of Miami, in Miami, Fla.

Dr. Carlos B. Domingo completed the residency in general surgery and began appointments as an attending staff member at the Newark Surgery Center, in Newark, Ohio, and as a member of the OSU clinical faculty at Ohio State University Hospital East and Mount Carmel East, in Columbus, Ohio.

Dr. Mason G. Fisher completed the master of medical science program and is continuing the residency in general surgery in the Department of Surgery at Ohio State.

Dr. Richard B. Fries completed the residency in general surgery and began a fellowship in vascular surgery in the Department of Surgery at Ohio State.

Dr. Mazen M. Hasan completed the fellowship in kidney and pancreas transplantation and began a fellowship in endourology at the University of Toronto, in Toronto, Canada.

Dr. Kimberly M. Hendershot completed the fellowship in surgical critical care and began an appointment as assistant professor of trauma and critical care at East Tennessee State University, in Kingsport, Tenn.

Dr. Louis B. Louis IV completed the fellowship in cardiothoracic surgery and began a fellowship in mechanical circulatory support in the Department of Surgery at Ohio State.

Dr. Vimal (Raaja) K. Narula completed the fellowship in advanced
therapeutic endoscopic surgery and began an appointment as assistant professor of surgery in the Division of General and Gastrointestinal Surgery at Ohio State.

Dr. Kevin M. Reavis completed the fellowship in minimally invasive surgery and began an appointment as assistant professor of clinical surgery at the University of California, in Irvine, Calif.

Dr. David B. Renton completed the fellowship in minimally invasive surgery and began an appointment as director of minimally invasive surgery at the University of South Carolina, in Columbia, S.C.

Dr. Margaret S. Sawyer completed the master of business administration program and is continuing the residency in general surgery in the Department of Surgery at Ohio State.

Dr. Vance L. Smith completed the master of business administration program and is continuing the residency in general surgery in the Department of Surgery at Ohio State.

Dr. Maya C. Spaeth completed the residency in plastic surgery and began a fellowship in hand surgery and microsurgery at Baylor University, in Houston.

Dr. Michael D. Vennemeyer completed the residency in plastic surgery and began private practice in Columbus, Ohio.

Dr. William A. Wallace Jr. completed the residency in plastic surgery and began an appointment as assistant professor of clinical surgery in the Division of Plastic Surgery at Ohio State.

Dr. Wing C. Yeen completed the fellowship in cardiothoracic surgery.

**New Trainees**

Twenty-three residents and fellows began their training programs in the Department of Surgery in July.

Dr. Jennifer H. Aldrink, previously a chief resident at Duke University Medical Center, in Durham, N.C., began an appointment as assistant chief resident in pediatric surgery.

Dr. Amy L. Collins, previously a medical student at the University of South Florida, in Tampa, began a categorical residency in general surgery.

Dr. H. Tracy Davido, previously a resident at the University of Minnesota, in Minneapolis, began a fellowship in surgical critical care.

Dr. Jeffrey L. Eakin, previously a preliminary intern in general surgery at Riverside Methodist Hospital, in Columbus, Ohio, began an appointment as a categorical second-year resident in general surgery.

Dr. Richard B. Fries, previously a resident in general surgery at Ohio State, began a fellowship in general vascular surgery.

Dr. Nabil Habash, previously a resident in general surgery at Mount Carmel Health, in Columbus, Ohio, began the fourth year of residency in plastic surgery.

Dr. Michelle Kincaid, previously a medical student at the University of Maryland, in Baltimore, began a categorical residency in general surgery.

Dr. Venkatesh (Kavi) P. Krishnasamy, previously a medical student at Northeastern Ohio Universities College of Medicine, in Rootstown, Ohio, began a preliminary residency in general surgery.

Dr. Eric A. Luedke, previously a medical student at the Medical College of Wisconsin, in Milwaukee, began a categorical residency in general surgery.

Dr. Yasdet Maldonado, previously a medical student at the University of Puerto Rico, in San Juan, began a categorical residency in general surgery.

Dr. Alison McAneny, previously a medical student at Pennsylvania State University, in Hershey, Pa., began an internship in plastic surgery.

Dr. Syed Mehmoord, previously a resident at Wayne State University, in Detroit, began a fellowship in cardiothoracic surgery.

Dr. Douglas A. Murrey Jr., previously a medical student at Ohio State, began a preliminary residency in general surgery.

Dr. Thomas A. Pham, previously a medical student at the University of Cincinnati, began a categorical residency in general surgery.

Dr. David N. Prall, previously a medical student at the University of Minnesota, began an internship in urology.

Dr. Ricardo Quarrie, previously a medical student at Ohio State, began a preliminary residency in general surgery.

Dr. Ankur R. Rana, previously a fellow in pediatric critical care surgery at the University of Michigan, in Ann Arbor, began a pediatric surgery fellowship in adolescent bariatric surgery and minimally invasive surgery.

Dr. Dorothy V. Rocourt, previously a fellow in minimally invasive surgery at George Washington University, in Washington, D.C., began a fellowship in pediatric surgical critical care.

Dr. Ketul K. Shah, previously a research fellow in the Department of Urology at Ohio State, began an internship in urology.

Dr. Suhaib Sharif, previously chief resident at the University of Illinois Metropolitan Group Hospitals, in Chicago, began a fellowship in surgical oncology.

Dr. David M. Shore, previously a medical student at Northwestern University, in Chicago, began an internship in urology.

Dr. Jonathan C. Yang, previously a medical student at Drexel University, began a residency in plastic surgery.

Caniano DA (Visiting Professor). Hirschsprung’s disease: 60 years of surgical innovation. Cincinnati Children’s Hospital, Department of Pediatric Surgery, Cincinnati, Ohio, June 6, 2007.


Caniano DA. Surgical ethics. State University of New York Upstate Medical University, Department of Surgery, the 2007 Lawrence Pickett Lecture in Pediatric Surgery, Syracuse, N.Y., April 18, 2007.


Groner JI. Child abuse: a primer for surgeons. Memorial Regional Medical Center, 14th Annual Trauma Symposium, Fort Lauderdale, Fla., Feb. 10, 2007.


Groner JI. Hazards of the home: an analysis of pediatric firearm injuries. Memorial Regional Medical Center, 14th Annual Trauma Symposium, Fort Lauderdale, Fla., Feb. 8, 2007.


Groner JI. Pediatric soft tissue trauma. Memorial Regional Medical Center, 14th Annual Trauma Symposium, Fort Lauderdale, Fla., Feb. 9, 2007.


ABSTRACTS


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Forster receives competitive research fellowship award

The Surgical Infection Society Foundation in April selected Dr. Meghan R. Forster, a general surgery resident in the Master of Medical Science Program (MMSP), to receive a fellowship award for her research examining the best way to prevent reactivation of cytomegalovirus (CMV) in critically ill surgical patients.

Forster, who spent the 2006-2007 academic year working in the laboratory of Dr. Charles H. Cook, was chosen to receive the Surgical Infection Society/Wyeth Evaluative Research Fellowship Award. The $40,000 award will fund a second year of research with Cook, assistant professor of surgery in the Division of Critical Care, Trauma, and Burn.

“This is a very prestigious honor, and I was humbled to have been selected,” Forster says. “I could not have done this without Dr. Cook’s guidance and support.”

CMV, a common pathogen in the herpes virus family that remains latent until the host’s immune system is compromised, can result in abnormal inflammation and scarring in the lungs of the critically ill, setting the stage for infectious complications and end-stage organ failure.

“Several groups have shown that septic patients in the ICU experience a transient decrease in their immune function, which can allow CMV reactivation,” Forster says. “Studies have shown that critically ill patients who reactivate CMV have a worse prognosis, including more days on mechanical ventilation, and longer stays in the ICU.

“Using Dr. Cook’s murine model of sepsis, we are now embarking on experiments to eliminate CMV reactivation during sepsis using the antiviral drug ganciclovir (GCV),” Forster says. “The goal of the experiments outlined in the grant is to determine the ideal GCV dosage regimen needed to prevent CMV reactivation. We plan to use the data in future clinical trials of GCV therapy in susceptible critically ill patients.” 

RECOGNITIONS

Dr. Gail E. Besner, professor of surgery in the Division of Pediatric Surgery, has been appointed member-at-large of the American College of Surgeons Surgical Research Committee for 2007-2010.

Chandan K. Sen, Ph.D., professor of surgery and vice chairman for research in the Department of Surgery, recently was elected to the board of directors of the Wound Healing Society.

Dr. Patrick S. Vaccaro, professor of clinical surgery and chief of the Division of General Vascular Surgery, has been elected a trustee of the Columbus Medical Association.
INSIDE:

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7 Forster receives competitive research fellowship award

Donna Sampsill, administrative assistant to Dr. E. Christopher Ellison, received an Ohio State University Medical Center Excellence in Service Award during a May 11 ceremony at the Medical Center, after having been nominated for the award by a patient’s family. Above, she and Ellison, the Robert M. Zollinger professor and chairman of surgery, pose during a recognition ceremony in the Department of Surgery.