Pancreatic cancer is one of the deadliest forms of the disease. Doctors’ typical line of attack involves DNA-damaging agents such as gemcitabine, but despite the potent activities of these drugs, patient survival is only extended by a few months, if that. Indeed, pancreatic cancer has the lowest five-year patient survival rate of any major form of cancer.

New research from Fox Chase has revealed one reason why: pancreatic cancer cells have an unlikely ally to help subvert the effects of chemotherapy. That ally is the vitamin D receptor (VDR), typically associated with bone health. The findings by Fox Chase cancer biologist Timothy J. Yen, PhD, and colleagues point to a new way to potentially help chemotherapy do its job: disable VDR. “If we find a drug that inactivates VDR,” says Yen, who published the findings in the December 15 issue of *Cell Cycle*, “patients could manage their VDR deficiency by taking calcium supplements to make sure their bones and other tissues stay healthy.”

To uncover the role of VDR, Yen and his team used a genome-wide siRNA library to conduct a synthetic lethal screen in pancreatic tumor cells treated with a non-killing dose of gemcitabine. They identified 27 genes that when “knocked down” by the technology rendered cancer cells more vulnerable to the drug. Knocking out some genes, such as those associated with repairing DNA damage, was known to enhance gemcitabine’s effects. But one result made Yen and his colleagues scratch their heads.

When the researchers knocked out the gene for the receptor that binds vitamin D, cancer cells became as sensitive to gemcitabine as when they knocked out the known DNA repair genes. “In both cases, almost all of the cancer cells died,” says Yen.

Pancreatic cancer cells use the vitamin D receptor (VDR) to repair the damage caused by gemcitabine

Treatments that inhibit VDR may render tumors more sensitive to cancer-killing drugs

VDR appears to act epigenetically on RAD51 to fix DNA damage caused by chemotherapy and allow tumor cells to survive and continue dividing

Panels B-D prompted Fox Chase researchers to ask how cancer cells with DNA damaged by chemotherapy or radiation can survive, divide, and proliferate.

**THE TOPLINE**

**Pancreatic cancer cells hijack vitamin D receptor in fight against chemotherapy**

A: Normal cell divided to form two daughter cells. 
B: Irradiated cancer cell with damaged DNA. 
C: After about a day, the damaged cell divides. 
D: The right daughter cell dies; the left survives and divides.

continued on page 4
The Right Trajectory

Just over a year ago, the inaugural issue of this publication described a new era of development at Fox Chase. I am now pleased to report on our positive results across the institution.

In 2014, an energized faculty increased grant applications by 19 percent, while the number of new awards from NIH grew by 50 percent (up to 27 from 18). Funding rises and falls for a multitude of reasons beyond our control, but we are optimistic that the upward trend will continue. Our confidence rests on the strength of a faculty that has attracted 17 new members last year, some of whom are internationally recognized physicians and researchers.

Providing additional impetus for research, Wafik El-Deiry, MD, PhD, FACP, our new deputy cancer center director for translational research, launched an internal competitive grant process utilizing the NIH peer-review system. The result was an impressive number of awards to our scientists for interdisciplinary translational research projects.

With 155 actively accruing interventional studies currently underway, we are also seeing exciting results from our drive to increase enrollment in clinical trials. Our Be the Breakthrough initiative has used visual tools including posters and informational brochures to prompt patient-provider discussion, increasing interventional accruals in our trials by 60 percent in 2014 over the previous calendar year. Our clinicians consider relevant trials as the standard of care at diagnosis, helping us lead the way in patient care.

Surgical volume reached an all-time high, increasing 15 percent over the previous year. Most clinical programs within medical and radiation oncology saw increased patient volume, with an especially noteworthy jump of 59 percent in gynecology.

In 2015, we are building on this momentum as we continue aggressive faculty recruitment and add new technologies, such as 3-D tomosynthesis mammography and other innovations in radiation oncology. It is deeply gratifying to experience the resurgence of a cancer center that has always been a pace-setting institution for researchers, clinicians, and patients alike.

Richard I. Fisher, MD
President and CEO
Fusion Biopsy Improves Detection of Prostate Cancer

A
n innovative technology called MR/ultrasound fusion prostate biopsy is allowing Fox Chase physicians to take a much more targeted approach to the collection of tissue samples from patients undergoing prostate biopsies. Currently, patients with low-risk prostate cancer often choose a strategy of active surveillance, the recommended course to avoid overtreatment. Yet there is a risk of disease progression, especially if the cancer is more aggressive than initially thought. Fox Chase uses the most up-to-date clinical tools available, including cancer biomarkers and genomic profiling, to ensure that risk stratification is accurate and treatment decisions are informed. Fusion-guided biopsy is the newest tool in this arsenal.

“Fusion-guided biopsy combines MR images of the prostate with real-time ultrasound images, giving us a better target to aim for during the biopsy,” says urologic surgical oncologist David Y.T. Chen, MD, FACS, director of the Society of Urologic Oncology Fellowship Program at Fox Chase. In addition to patients on active surveillance, the technique is also useful for people who have had biopsies that came up negative yet still are strongly suspected of harboring cancer.

Fox Chase, one of the first places to employ fusion-guided biopsy technology outside of clinical trials, has already performed biopsies on more than 60 patients. For a few of these patients, the technology has uncovered aggressive cancers that would not have been recognized otherwise. According to Chen, the technique can “increase the likelihood of finding significant cancer by two- or three-fold.”

A recent study in the Journal of the American Medical Association found that, while MR/ultrasound fusion biopsy detected 17 percent fewer low-risk cancers than a regular biopsy, it detected 30 percent more high-risk cancers. In the study, fusion biopsy also allowed physicians to more accurately distinguish between low-risk and high-risk forms of the disease.

“It’s a very promising technology that helps patients potentially avoid future unnecessary biopsies and, at the same time, lowers the risk of missing aggressive tumors,” says urologic surgical oncologist Alexander Kutikov, MD, FACS. “Fox Chase has long had a robust active surveillance program and this technology allows us to provide patients on active surveillance an extra level of comfort that we won’t miss aggressive tumors if they develop in a hard-to-reach area of the prostate.” Temple Health, of which Fox Chase is a part, is one of the first health systems in the region to offer this technology.
Pancreatic Cancer Cells Hijack Vitamin D Receptor in Fight Against Chemotherapy

“We suspect that cancer cells hijacked VDR and reassigned it to perform other cellular functions, such as repairing DNA damage caused by gemcitabine so the cancer can continue to divide and spread.” The findings were a big surprise, he says, since VDR had not shown to be either a tumor suppressor or oncogene, nor play a role in drug sensitization. “There was little information known about our findings so we had to tread carefully as this was uncharted territory.”

Although it’s not quite clear how VDR helps cancer cells sidestep gemcitabine, a key player appears to be RAD51. When the researchers knock out VDR, the RAD51 protein can’t function properly to help repair the damaged DNA. VDR appears to affect RAD51 at the epigenetic level, regulating chromosome structure by modifying the histone proteins that package the DNA. Indeed, when they added a drug that elevates levels of histone acetylation in cells lacking VDR, RAD51 function was restored.

These findings present both good news and bad news, says Yen. The good news is that VDR is a druggable target that binds to small molecules such as vitamin D or some other molecule that might be used to help cancer cells respond better to gemcitabine. “The idea is to try to identify a small [inhibitor] molecule that binds to this receptor and blocks its activity in pancreatic cancer cells.” The bad news, he says, is that it remains unclear which small molecule is responsible for VDR’s activity in pancreatic cancer. “We have a target, but we don’t yet know how to inactivate it,” he says. “Finding a drug that can inactivate VDR is a priority.”

Whether the discovery of VDR activity in pancreatic cancer cells applies to other types of cancers is not clear and will require testing. VDR may not be hijacked in other cancers the same way it is in pancreatic cancer. Nevertheless, the principle may be the same—other cancer types hijack different genes, retasking them to help survive. “We are hoping that once our paper circulates within the scientific community, it may give some new insights for experts from the field who are addressing very important questions about the influence of sunlight, vitamin D intake, and other factors on cancer risk.”

Yen’s co-authors are Vikram Bhattacharjee, PhD, and Yan Zhou, MSE, PhD, both from Fox Chase.

Helping Patients Reduce Distress

The NCCN Distress Thermometer asks patients to circle a number that best describes their level of distress. The one-page assessment is accompanied by a yes/no checklist of distress problems.

Beginning this year, the American College of Surgeons is requiring the assessment of psychological distress as part of the vital signs process. The College’s actions recognize the powerful impact of mental and behavioral health on patients’ treatment decisions and outcomes. If patients have less distress, they tend to take a more active role in their care and can do better in treatment.

Fox Chase Cancer Center is going even beyond the College’s requirements to assess and treat patient distress. The Center’s new standards build on its own success in identifying and meeting patient needs through initiatives such as survivor support groups and case management. They also draw on the Distress Thermometer and Problem List of the National Comprehensive Cancer Network® (NCCN®), derived from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Distress Management.

At each visit, Fox Chase patients receive a one-page assessment to report on the kinds of distress they are experiencing—for example, physical, emotional, spiritual—and how much. The care team then refers the patient to resources, within or outside Fox Chase, such as social workers, specialist care in psychiatry or pain management, and financial assistance programs.

Fox Chase researchers and physicians serve as members of the NCCN Guidelines® Panel for Distress Management. As the Center implements its new standards, it is well positioned to help the NCCN Guidelines panel evaluate and revise its recommendations for assessing patient distress if necessary.

To learn more, please contact Karen Mechanic, MD, director of psychiatry, at karen.mechanic@fcc.edu.

Karen Mechanic, MD
E-mail Anonymous: A Physician’s Addiction

The following is an excerpt from an article by Fox Chase medical oncologist Daniel M. Geynisman, MD. The piece, published in the December 15, 2014 issue of the Journal of Clinical Oncology, discusses the pitfalls and positives of being a doctor in the age of e-mail. To read the full article, visit fccc.edu/FoxChaseNOW.

The next time you are sitting in Grand Rounds, standing in the cafeteria line, rounding with your team, or giving a talk, take a look at your colleagues. Chances are, they are staring at a screen, and many are probably checking e-mail. E-mail has changed how physicians communicate. Whether related to patient care, academic pursuits, or administrative tasks, our interactions are now frequently conducted electronically. This form of communication has a new pressure attached: who would not prefer to collaborate with someone who responds within minutes? The patient-based aspect of e-mail reinforces the importance of a prompt reply—patient care is paramount, and therefore, checking e-mail frequently feels like something that good doctors should do. Whether the shift from live dialogue to e-mail has led to improved communication, enhanced productivity, or—most importantly—improved patient outcomes is unknown. The true extent and impact of daily e-mail use by physicians has also not been formally quantified. However, my own e-mail usage can be formally qualified. I am an e-mailaholic.

Constant communication may have its benefits. Queries are answered more quickly, both by colleagues and patients (who may feel less intimidated getting in touch with their physician via e-mail), and perhaps projects and tasks are advanced a little faster. But e-mail also decreases spoken and face-to-face interactions, arguably eroding relationships. Questions answered by e-mail may result in misunderstandings that require many follow-up e-mails. This ongoing e-mailing leads to interruptions and multitasking: patient care, writing, reading, thinking, and generally being present in any given moment become fragmented.

What is the cost of this constant switching of thought and attention? Although no prospective and unequivocal studies exist, e-mail has been associated with stress and loss of control, and in an academic environment, users spent approximately 23% of their time on e-mail, checking it up to 36 times per hour. In older adults, multitasking led to significant working memory disruption. When e-mail was shut off for 13 knowledge workers, they tended to multitask less and exhibited longer task focus; stress was also lower without e-mail. Interestingly, some companies are now asking their employees to shut off e-mail for certain lengths of time during the day to increase productivity.

The gravitational pull of e-mail is strong and draws on the variable-interval reinforcement schedule concept—reward is unpredictable and e-mail becomes addictive. Furthermore, a recent study in default-mode processing (inward-directed thought) revealed that people not only do not seem to enjoy sitting quietly and thinking with no distractions, but that 43% (67% of men and 25% of women) self-administered electric shocks rather than simply sit for 15 minutes without anything to do (all of them previously said they would pay money to avoid such a shock). With e-mail always available and someone invariably reaching out, it becomes difficult not to constantly check for new messages. Feeling trapped in the jaws of e-mail, I decided to conduct an experiment. I was leaving for a week of vacation (during which time I would normally still check my e-mail) and decided to completely disconnect. I uninstalled e-mail from my phone, activated an “and will not be available by e-mail” out-of-office automatic reply with instructions for contacting a back-up clinician, and told coworkers that I would not be checking e-mail but that I would be available by phone in case of emergencies. ■

Read the full article at fccc.edu/FoxChaseNOW.

Daniel M. Geynisman, MD
Key Player in Lymphocyte Differentiation Discovered; Promotes Metastasis

**THE TOPLINE**

- DEF-binding pocket (DBP) of extracellular regulated kinase (ERK) regulates the differentiation of lymphocytes.
- Since DBP also promotes metastatic spread of tumor cells, blocking this site could hobble tumors while letting ERK function normally.

In order to mature into functional lymphocytes, stem and progenitor cells depend on receptors that pick up subtle changes in the cellular environment and relay that information to the nucleus, which turns the right genes on and off. And that’s where things can get complicated.

“Receptors rarely encounter all-or-nothing situations, and instead they have to interpret shades of gray,” says Fox Chase researcher David L. Wiest, PhD. “Think of the receptors as 100-watt bulbs with three settings—dim, medium, or bright—that can burn at those different levels for different lengths of time. Then, in response to those differences, the cell reacts. But how does the cell know when the bulb is dim, medium, or bright, or on for a short or long time?”

Now, Wiest and his colleagues have uncovered one major clue in the differentiation of lymphocytes. They found that the molecule in the cellular relay system that is central to the cell’s ability to interpret differences in the intensity and duration with which the “bulb” burns is extracellular regulated kinase (ERK)—specifically a little-known binding site called the DEF-binding pocket (DBP).

When the researchers disabled the DBP of ERK in the blood cells of mouse embryos, leaving ERK otherwise intact, they found that the mice survived but lacked γδ T cells. Alternatively, when they knocked out the D-domain—the main binding site of ERK that carries out most of ERK’s functions—γδ T cells developed normally. The researchers found that the DBP enables ERK to bind to a distinct set of proteins that specify the fate of γδ T cells.

The results, published in the December issue of *Immunity*, aren’t just relevant to normal cells. The DBP of ERK also plays a critical role in promoting metastatic spread of tumor cells.

In order for tumor cells—of epithelial cancers—to leave their current site and spread throughout the body, they have to undergo a form of differentiation, explains Wiest, transitioning from a basic epithelial cell to a motile fibroblast. The DBP of ERK is key to this process. “Although we didn’t test whether the mice with disabled DBPs were more resistant to cancer, we believe this to be the case.”

There are drugs that stop ERK from functioning altogether, but since ERK is involved in many cellular processes, totally disabling it is associated with many side effects. Ideally, a new therapy would exploit drugs that selectively block the DBP site of ERK, thus preventing tumor cells from metastasizing while allowing ERK to retain other functions, suggests Wiest. “The next step is to identify such drugs.”

Sang-Yun Lee, PhD, Francis Coffey, PhD, Shawn P. Fahl, PhD, Suraj Peri, MSc, PhD, Michele Rhodes, Kathy Q. Cai, MD, PhD, and Dietmar J. Kappes, PhD, from Fox Chase, as well as Michael Carleton, PhD, from Rosetta Inpharmatics and Presage Biosciences, Stephen M. Hedrick, PhD, from the University of California San Diego, Hans-Jörg Felhling, PhD, from the University Clinics Ulm in Germany, and Juan Carlos Zúñiga-Pflücker, PhD, at the University of Toronto in Canada.

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ERK2 is a signaling molecule that helps relay information from the outside of cells to the cell interior in two ways. It uses the “D-domain” (green) to relay information from signals that are shorter in duration and the “DEF-binding pocket” or DBP (yellow) to relay information from signals of increased duration. These capabilities are on opposite faces of the molecule, enabling one to selectively sever them to manipulate the cellular outcomes produced by information received from the cell exterior.

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**David L. Wiest, PhD**
Survivorship Care Guidelines for Non-Small Cell Lung and Colorectal Cancers

Medical oncologist Crystal Denlinger, MD, presented new results from her project titled “Adherence to NCCN Survivorship Care Guidelines in Non-Small Cell Lung Cancer (NSCLC) and Colorectal Cancer (CRC)” at the National Comprehensive Cancer Network’s 20th annual conference in March. Denlinger and colleagues found that comprehensive assessment guidelines for NSCLC and CRC survivors were not regularly met, although adherence increased somewhat after providers received an educational intervention focused on survivorship care. The research, presented at the conference’s general poster session, was funded through Denlinger’s NCCN Foundation 2012 Young Investigator Award. Denlinger also gave a talk introducing the NCCN’s new guidelines on anthracycline-induced cardiotoxicity in cancer survivors.

In addition to Denlinger, medical oncologist Anthony J. Olszanski, MD, RPh presented at the meeting. He discussed the principles of immunotherapy in a two-part session, the second session of which focused on melanoma, kidney, and lung cancers.

Fox Chase Presents on Disparities in Cancer Prevention and Treatment

In November 2014, Evelyn González (far left), senior director of the Fox Chase Office of Health Communications and Health Disparities, presented at the seventh AACR conference on the Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved. During her presentation, González shared information on why it is important to include different racial and ethnic groups when embarking on new and improved methods of cancer screening, prevention, and treatment.

Visit us online at foxchase.org/FoxChaseNOW for a full recap of Fox Chase’s activities at recent meetings.

GI Clinical Trials Make Meeting Headlines

Fox Chase was well represented at the annual GI ASCO Symposium in January. Many fellows, residents, and faculty members attended, with nine making poster presentations on topics around esophageal, pancreatic, and colorectal cancers. Medical oncologist Wafik El-Deiry, MD, PhD, FACP, also presented oral abstracts on two antiangiogenic agents for metastatic colorectal cancer (mCRC) going through Phase II and III trials. His discussion made headline news at the Symposium.

San Antonio Breast Cancer Symposium

In January, Fox Chase hosted its 13th Annual Highlights from the San Antonio Breast Cancer Symposium in collaboration with OncLive. Led by Lori J. Goldstein, MD, FASCO, the program included faculty from both Fox Chase Cancer Center and the University of Pennsylvania. More than 170 physicians and nurses attended the program in Philadelphia, which provided relevant updates on the management of breast cancer and premalignant breast disease. The event has come to be regarded by local clinicians as a critical resource for learning about recent research findings and advances in breast cancer care.

American Society of Hematology

Following the December 2014 ASH Meeting, Fox Chase and the Temple University School of Medicine hosted the inaugural Annual Highlights recap meeting in Philadelphia. The program, led by Henry C. Fung, MD, FACP, featured Richard Fisher, MD, President and CEO of Fox Chase, as well as members of the hematologic oncology faculty and Fox Chase-Temple Bone Marrow Transplant Program. The meeting provided updates on the management of hematologic cancer, stem cell transplantation, and consultative hematology, and was well attended by more than 70 physicians, physician assistants/adult nurse practitioners, and nurses.

2015 AACR Annual Meeting

Please join us at a special Fox Chase Cancer Center reception
Sunday, April 19, 2015, 7:00–9:00 p.m.
Philadelphia Marriott Downtown
Register at www.foxchase.org/AACR
One of the most exciting new areas in cancer research is a class of monoclonal antibodies that targets immune system checkpoints—specifically, the programmed cell death protein 1 (PD-1) expressed on T-cell membranes. By binding its ligand PD-L1, PD-1 downregulates T cells and prevents autoimmune reactions. Many tumors express the PD-L1 ligand, thereby suppressing the immune response against them. Nivolumab inhibits PD-1, preventing it from binding PD-L1 and enabling T cells to attack tumor cells. “Nivolumab takes the brakes off the immune system, that’s how we explain it to patients,” says Fox Chase medical oncologist Elizabeth Plimack, MD.

Fox Chase is now a study site for multiple clinical trials that include PD-1/PD-L1 inhibitors, which have already yielded impressive results. Cancer types being studied include lung, renal, bladder, and hematologic.

Although Hodgkin’s lymphoma has many effective treatments, they don’t work in all patients, says Fox Chase medical oncologist Michael M. Millenson, MD. PD-1 inhibitors may provide another option. Among a group of 23 patients with relapsed or refractory Hodgkin’s lymphoma who had already been heavily treated, all experienced either stable disease or an objective response to biweekly doses of nivolumab; 17 percent experienced a complete response. By 24 weeks, 86 percent were alive and had not seen their cancer progress. PD-1 inhibitors appear to work particularly well in Hodgkin’s because these lymphomas overexpress the PD-L1 ligand, says Millenson. “The next step will be to explore the use of nivolumab in less heavily pre-treated patients to determine where this may best fit in the overall treatment armamentarium.” The findings are presented by Millenson and his co-authors in the January 22 issue of the New England Journal of Medicine.

Meanwhile, Plimack and her co-authors piloted a Phase I trial of nivolumab in combination with ipilimumab, a monoclonal antibody to CTLA-4 (cytotoxic T-lymphocyte-associated protein 4), another protein that downregulates T-cell activity. Among 44 patients with metastatic renal cell carcinoma (RCC), most of whom had received prior systemic therapy, 43 percent of those receiving nivolumab at a dose rate of 3 mg/kg plus ipilimumab at 1 mg/kg displayed an objective response, as did 48 percent of those on nivolumab at 1 mg/kg and ipilimumab at 3 mg/kg. The majority of patients displayed an ongoing response by the end of the study, and most were progression-free 24 weeks after starting treatment.

In a separate Phase II trial of 168 RCC patients conducted at Fox Chase and other participating sites in the United States, Canada, Finland, and Italy, half of patients survived at least 18 to 25.5 months after treatment with nivolumab, depending on the dosage. Only 11 percent experienced grade 3 or 4 treatment-related adverse events, mostly related to autoimmunity, Plimack and her co-authors reported in the December 1 issue of the Journal of Clinical Oncology.

The drug shows an “acceptable safety profile for most patients,” says Plimack. “We are seeing some patients whose cancer has been controlled or erased in imaging with no chronic side effects.” The researchers are now finalizing the data with the U.S. Food and Drug Administration. “We hope to have FDA approval for the use of nivolumab in renal cell carcinoma early next year.”
**SELECTED OPEN CLINICAL TRIALS**

**GASTROINTESTINAL CANCER (COLORECTAL)**
An Open-Label Expanded Access Study of TAS-102 In Patients with Metastatic Colorectal Cancer Refractory to or Failing Standard Chemotherapy
*Steven J. Cohen, MD*
14-067

**GASTROINTESTINAL CANCER (GASTROESOPHAGEAL)**
MM-111-13-02-04: Randomized, Open Label, Phase II Study of MM-111 and Paclitaxel With or Without Trastuzumab In Patients with 'Traditional' and 'Non-Traditional' HER2 Expressing Carcinomas of the Distal Esophagus, Gastroesophageal (GE) Junction and Stomach Who Have Failed Front Line Metastatic or Locally Advanced Therapy
*Crystal S. Denlinger, MD*
13-001

**GASTROINTESTINAL CANCER (HEPATOCELLULAR)**
54F28-004: A Phase Ib Dose Escalation Study of OMP-54F28 In Combination with Sorafenib In Patients with Hepatocellular Cancer
*Crystal S. Denlinger, MD*
13-053

**GENITOURINARY CANCER (RENAL)**
AGS-003-007: ADAPT An International Phase III Randomized Trial of Autologous Dendritic Cell Immunotherapy (AGS-003) Plus Standard Treatment of Advanced Renal Cell Carcinoma
*David Y.T. Chen, MD, FACS*
PARGOS001/12-058

A Phase III, Randomized, Open-Label Study of Nivolumab Combined with Ipilimumab Versus Sunitinib Monotherapy in Subjects with Previously Untreated, Advanced or Metastatic Renal Cell Carcinoma
*Elizabeth R. Plimack, MD*
CA209214/14-043

**HEAD AND NECK CANCERS**
ECOG 3311: Phase II Randomized Trial of Transoral Surgical Resection followed by Low-Dose IMRT in Resectable p16 + Locally Advanced Oropharynx Cancer
*Miriam N. Lango, MD*
ECOG3311/13-203

FER-HN-027: Phase II Trial of Carboplatin/ Paclitaxel and Cetuximab, Followed by Carboplatin/Paclitaxel/Cetuximab and Er- lotinib, with Correlative Studies in Patients with Metastatic or Recurrent Squamous Cell Carcinoma of the Head and Neck (NCT01316757)
*Ranee Mehra, MD*
FERHN027/10-026

**HEMATOLOGIC CANCER (LYMPHOMA)**
Phase I Dose Finding Study of Belinostat plus Cyclophosphamide/Vincristine/ Doxorubicin/Prednisone (BelCHOP) Regimen for Treatment of Patients with Peripheral T-cell Lymphoma
*Stefan Barta, MD, MS, MRCP*
14-026

A Randomized, Open-Label, Phase III Trial of Adcetris (Brentuximab Vedotin) +AVD Versus ABVD as Frontline Therapy In Patients with Advanced Classical Hodgkin Lymphoma
*Nadia Khan, MD*
14-022

**RADIATION**
A Randomized Phase III Clinical Trial Evaluating Post-Mastectomy Chestwall and Regional Nodal XRT and Post-Lumpectomy Regional Nodal XRT in Patients with Positive Axillary Nodes Before Neoadjuvant Chemotherapy Who Convert to Pathologically Negative Axillary Nodes After Neoadjuvant Chemotherapy
*Penny R. Anderson, MD*
14-705/NSABPB51/RTOG 1304

**SARCOMA**
OER-SAR-043: Phase II Study Evaluating the Role of Pazopanib in Angiosarcoma (IND 112423) (NCT01462630)
*Margaret von Mehren, MD*
OERSAR043/11-042

**SURGICAL**
CALGB 70807: The Men’s Eating and Living (MEAL) Study: A Randomized Trial of Diet to Alter Disease Progression in Prostate Cancer Patients on Active Surveillance
*Marc C. Smaldone, MD, MSHP*
CTSU70807

A Randomized Controlled Trial of Perioperative Risk Stratification and Risk-Based, Protocol-Driven Management in Patients Undergoing Elective Major Cancer Surgery
*Nestor F. Esnaola, MD, MPH, MBA*
14-036/SURG-073

**THORACIC CANCER (NON-SMALL CELL LUNG)**
An Open-Label, Randomized, Phase III Trial of Nivolumab versus Investigator’s Choice Chemotherapy as First-Line Therapy for Stage IV or Recurrent PD-L1+ Non-Small Cell Lung Cancer
*Hossein Borghaei, DO*
CA209026

A Randomized, Double-Blind, Placebo-Controlled, Phase II Clinical Trial of Alisertib (MLN8237) in Combination With Paclitaxel Versus Placebo in Combination With Paclitaxel as Second Line Therapy for Small Cell Lung Cancer (SCLC)
*Hossein Borghaei, DO*
C14018

A Phase I/II Trial to Assess Safety and Tolerability of an Oral Aurora Kinase A Inhibitor, MLN8237, In Combination with Erlotinib In Patients with Recurrent or Metastatic Non-Small Cell Lung Cancer (IND 111879) (NCT01471964)
*Hossein Borghaei, DO*
FERTH036
“Some of the most important quality-of-life issues in cancer care can be found in head and neck oncology.”

Since joining Fox Chase in 1991 as chief of head and neck surgery, John A. Ridge has been dedicated to developing treatments and surgical techniques that cure head and neck cancers while allowing patients to maintain a high quality of life. Nationally recognized, Ridge focuses his clinical practice on head and neck and endocrine tumors, including nonsurgical management, organ preservation, new surgical techniques, and early and advanced thyroid tumors. As a co-chair of the National Cancer Institute’s Head and Neck Cancer Steering Committee, he helps coordinate and direct federally funded clinical research in the field, setting the agenda for the next decade’s clinical trials.

Recently, Ridge was named associate director for the Temple Head and Neck Institute, a newly launched comprehensive program that brings together physicians and medical professionals from across Temple Health to provide patient care and expand research and educational opportunities in head and neck diseases.

Q: How will patients benefit from the Temple Head and Neck Institute?
A: At Fox Chase we’re accustomed to thinking in terms of tumors, mostly cancers. But there are many other head and neck problems, including things like hearing and balance and voice disorders. One of the exciting things about the Institute is our ability to provide support to other clinical programs. A patient may come in with hoarseness and turn out to have a voice box cancer, so a referral to a Fox Chase cancer specialist would be appropriate. And similarly, patients we are treating for cancer may develop a voice disorder and benefit from seeing a specialist in benign voice problems.

Q: How does this differ from how treatment was previously handled?
A: This makes it easier. In the past, Fox Chase head and neck specialists were subspecialized oncologists. Now we have ready collaboration with other head and neck specialists, such as otolaryngologists, audiologists, and speech-language pathologists, who can handle other treatment-related problems.

Q: What’s new in head and neck research and treatment at Fox Chase?
A: In robotic surgery we have been able to remove throat cancers through the mouth, rather than making cuts and opening the throat. Recovery is far easier and hospitalization time shorter. The head and neck program is also engaged in exciting new research to understand how cancers caused by viruses affect different populations or groups of patients. People of African origin seem to have different disease patterns for throat cancers than Caucasians. With the Head and Neck Institute, system-wide collaboration makes it easier to compare different groups of patients than it would have been at the individual hospitals when we weren’t working together.

Q: Looking ahead, what are the most important issues in head and neck cancer that Fox Chase is looking to address in the next five years?
A: Care for survivors, those patients living beyond cancer, is very important. We should be trying to cure as many patients as possible, while providing all of them with the best possible quality of life. The diseases affect people’s ability to eat and talk. Some of the most important quality-of-life issues in cancer care can be found in head and neck.
FOX CHASE Welcomes

CLINICAL FACULTY

THORACIC CANCER
Deric C. Savior, MD, assistant professor and director of thoracic oncology at Temple University Hospital, joins the medical oncology department and the lung cancer care team at Fox Chase. His clinical interests include palliative care and paraneoplastic syndromes. He received his MD from MCP Hahnemann School of Medicine (now Drexel University College of Medicine) and completed a residency in physical medicine and rehabilitation at National Rehabilitation Hospital in Washington, D.C., as well as an internal medicine residency at Graduate Hospital, where he was chief resident. He also completed a fellowship in hematology/oncology at Lankenau Hospital.

BREAST CANCER
Aruna Padmanabhan, MD, director of breast cancer at Temple University Hospital and assistant professor of medicine at Temple University School of Medicine, joins Fox Chase’s medical oncology department as an associate professor of breast malignancies. She received her MBBS from Kasturba Medical College in Manipal, India, was chief resident in internal medicine at Trinitas Hospital of Seton Hall University in Elizabeth, N.J, and completed a fellowship in medical oncology at Roswell Park Cancer Institute in Buffalo, N.Y.

GENITOURINARY CANCER
Alvaro Pereira-Rico, MD, associate professor of clinical medicine at Temple University School of Medicine, joins Fox Chase’s department of medical oncology and genitourinary cancer care team as an associate professor of genitourinary malignancies. His research focuses on uro-oncology, including prostate, renal, and bladder cancers. Pereira-Rico received his MD from the Universidad Complutense de Madrid, Spain, and completed an internal medicine residency and women’s health fellowship at Saint Louis University Health Sciences Center and a medical oncology and hematology internship at Jefferson Medical College.

GASTROINTESTINAL CANCER
Juhi Mittal, MD, director of gastrointestinal oncology at Temple University Hospital and assistant professor of medicine at Temple University, joins the Fox Chase department of medical oncology as an assistant professor of gastrointestinal malignancies. She received her MBBS from Kasturba Medical College and completed a surgical internship at the North Division of Montefiore Medical Center. Mittal also completed a residency in internal medicine and a fellowship in hematology/medical oncology at SUNY Downstate Medical Center in Brooklyn, N.Y.

NEWS

Farma Awarded Traveling Fellowship
Surgical oncologist Jeffrey Farma, MD, FACS, was invited last fall to Germany as the 2014 American College of Surgeons (ACS) Traveling Fellow. The fellowship provided Farma with a better understanding of German surgical training and education and the country’s national health care system, specifically multidisciplinary cancer care and clinical trial procedures.

Farma visited six medical centers and attended the 131st Congress of the German Society for Surgery (GSS) in Berlin, where he presented in the session, “Changing the Treatment Paradigm for Locally Advanced Rectal Cancer.” During the Congress, he also talked about his experience as an ACS scholar and participated in a roundtable discussion on building relationships between GSS and ACS, an activity Farma plans to continue at Fox Chase.

Levy Receives Lifetime Achievement Award
The American Academy of Hospice and Palliative Medicine has honored Michael H. Levy, MD, PhD, director of Fox Chase’s pain and palliative care program, with its 2015 Lifetime Achievement Award. The award recognizes Levy’s outstanding contributions and significant publications that have helped shape the field of hospice and palliative medicine. Levy, who is considered a leader of the American hospice and palliative care movement, is also chair of the NCCN Palliative Care Guidelines panel and a member of the Technical Advisory Panel for the first update of The Joint Commission’s palliative care standards.
Fox Chase, Faculty Members Honored by the American Cancer Society

The Pennsylvania Division, Southeast Region of the American Cancer Society (ACS) honored Fox Chase Cancer Center and Temple University School of Medicine for the work of key individuals whose gifts of time and talent increase the chances of living in a cancer-free world.

Fox Chase Recognized for Commitment to ACS
Fox Chase Cancer Center was honored with the Partners in Health Initiatives Award for its high level of commitment to the mission of ACS. The award is given to organizations that have demonstrated outstanding efforts to link ACS goals and priorities with the goals and priorities of the system that they represent.

Beck Receives Cancer Control Award
J. Robert Beck, MD, senior vice president, deputy director, chief academic officer, chief administrative officer, and H.O. West and J.R. Wike Chair in Cancer Research at Fox Chase, received the 2014 Cancer Control Award. The award celebrates the spirit of volunteerism and work that advances cancer research, patient care, and advocacy. Beck oversees all activities that support Fox Chase’s academic and research operations. He also maintains research interests in technology assessment, cost-effectiveness of cancer therapies, cancer health disparities, and the organization of biomedical informatics services and general academic resources.

Issa Given Scientific Research Award
Jean-Pierre Issa, MD, co-leader of the cancer epigenetics group and director of the Fels Institute for Cancer Research and Molecular Biology at Temple University School of Medicine, was honored with the 2014 Scientific Research Award for his important contributions in the field of epigenetics in the pathophysiology and treatment of cancer. Issa has helped reveal that different cancers arise along different molecular routes, and his work has led to promising biomarkers for cancer detection, prognosis, and prediction. His proof-of-principle for epigenetic therapy of cancer is now standard of care in several types of leukemias.

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