

University of Arkansas for Medical Sciences CONSULT A Newsletter for Medical Professionals

SPRING 2024

UAMS ADDS KIDNEY-PANCREAS TRANSPLANTS TO ITS SOLID-ORGAN TRANSPLANT SERVICES

The **University of Arkansas for Medical Sciences (UAMS)** has been performing kidney transplants for 60 years, liver transplants for 19 years and now — for the past seven months — kidney-pancreas transplants as well.

The latest addition to UAMS' solid-organ adult transplant program became official Sept. 1, 2023, when **Raj Patel, M.D.**, surgical



director of pancreas transplantation, successfully completed the first combined kidney-pancreas transplant in Arkansas

since the 1990s.

The 27-year-old patient was an insulin-dependent Type 1 diabetic who had been on dialysis for kidney failure. Patel said the woman had been fighting for survival since her early teens, but thanks to the transplant, is now free of both insulin and dialysis. For many years, Arkansans had to leave the state to obtain a pancreas transplant, with the closest out-of-state transplant centers in Memphis, Dallas and St. Louis.

UAMS surgeons perform the transplants on the medical center's main campus in Little Rock, while preliminary and follow-up care is offered in Little Rock as well as at satellite transplant clinics in Fayetteville, Jonesboro, Texarkana, Pine Bluff, Fort Smith and Helena-West Helena.

Patel noted that a significant number of Arkansas residents are on Medicaid or Medicare, both of which cover pancreas transplants.

Before UAMS could add pancreas transplants, he said, it had to meet stringent certification requirements established by the United Network for Organ Sharing (UNOS). They stipulated that UAMS have both a transplant surgeon and a nephrologist who had each performed a pancreas transplant within one year of the certification.



The requirement was met after **Martha Michelle Estrada, M.D.**, a boardcertified transplant/

certified transplant/ hepatobiliary surgeon,

was hired in late 2022, and Patel, a fellowship-trained transplant surgeon specializing in diseases of the kidney, liver and pancreas, refreshed his training by assisting in an out-of-state pancreas transplant.

"Right now, we are only doing kidney-pancreas transplants," he said, explaining that dual-organ transplants from the same donor have proven to benefit patients more than pancreas transplants alone.



Phil Taylor, picture archiving and communication systems (PACS) administrator at UAMS, sits in a chair in the Nuclear Medicine therapy room at UAMS where patients receive Lutathera or Pluvicto therapy through an IV connected to the infusion pump at right. Radiologist Joshua Eichhorn, M.D., Ph.D., is on the left.

UAMS Offering New Therapies for Certain Types of Prostate and Neuroendocrine Cancer

The UAMS Department of Nuclear Medicine is offering two new radioactive cancer therapies to help patients who have certain types of prostate or neuroendocrine cancer.

Pluvicto (lutetium Lu 177 Vipivotide tetraxetan) is a treatment for adults with prostate-specific membrane antigen-positive metastatic castration-resistant prostate cancer, also known as PSMA-positive mCRPC. It's a type of prostate cancer that has spread to other parts of the body and is no longer responding to testosteronelowering hormone treatment or taxol-based chemotherapy.

Joshua Eichhorn, M.D., Ph.D., an assistant professor in Diagnostic Radiology and Nuclear Medicine at UAMS, said UAMS has been using this treatment for about a year.

Pluvicto is administered intravenously once every six weeks for a total of six treatments. It delivers radiation treatment directly to PSMA-positive prostate cancer cells. Once it attaches to the cell, it is absorbed and then it releases radiation that causes DNA damage and kills cancer cells with limited effect on neighboring tissue.

Results of an international clinical trial found that men with PSMA+mCRPC who were administered Pluvicto plus the best standard of care lived a median of four months longer (15.3 months versus 11.3 months) than patients who didn't receive the therapy, and a median of 5.3 months longer (8.7 months versus 3.4 months) without their cancer growing or spreading.

Nearly 30% of the men treated saw their tumors shrink or disappear, and half saw at least a 50% decline in their PSA levels.

Each treatment visit requires patients to spend about 1 ½ hours at UAMS.

Lutathera (lutetium Lu 177 Dotatate), which is also given as an intravenous injection, is a radioactive treatment for adults who have well differentiated neuroendocrine tumors or GEP-NETs (gastroenteropancreatic neuroendocrine tumors) that are positive for the hormone receptor somatostatin.

It is the first and only radioactive therapy for GEP-NET. It uses radiation to specifically target and damage cancer cells that are positive for the somatostatin hormone receptor. In an international clinical trial, people with mid-gut NETs who received Lutathera with a long-acting octreotide saw a 79% reduction in the risk of disease progression or death, compared to those who received the long-acting octreotide alone.

Patients may receive up to four infusions at 8-week intervals, each requiring about six hours at UAMS.

Referrals can be faxed to 501-686-8452 or emailed to NucMedReferral@UAMS.edu

SPRING 2024 Message from Dr. Krause



Dear Colleagues,

Did you know that an estimated 14% of adults in the United States have chronic kidney disease?

There are five stages of CKD, each characterized

by progressive loss of kidney function. Although no cure exists, by "knowing your kidney number," patients can slow the progression to end-stage kidney disease.

The most common causes of CKD are diabetes mellitus and high blood pressure, with glomerular disorders and inherited conditions such as polycystic kidney disease less common.

Strict blood sugar control with individualized HBA1c <6.5% to 8%, blood pressure target <130/80 mm Hg, proteinuria reduction, and dietary modifications including sodium restriction, are beneficial in the management of CKD. Ace inhibitors and angiotensin receptor blockers remain the medications primarily used to treat high blood pressure and proteinuria in CKD, especially in those with diabetes.

Recently, newer medications including the sodium-glucose cotransporters-2 inhibitors (SGLT2), glucagon-like peptide-1 receptor agonists (GLP-1), non-steroidal mineralocorticoid receptor antagonists (nsMRA) have been shown to slow progression in CKD.

For those who progress to end stage kidney disease, CKD education is imperative to help patients choose between home and in-center dialysis therapy, plan for vascular access, look at palliative care options and be evaluated for transplantation. In this issue, we have more information about UAMS' transplant program, which now offers kidney-pancreas transplants.

Sincerely,

Michelle Mause

Michelle Krause, M.D. Senior Vice Chancellor, UAMS Health CEO, UAMS Medical Center Professor of Nephrology Department of Internal Medicine UAMS College of Medicine

News to Know: Updates from UAMS

Researchers at UAMS Discover Potential Drug to Prevent Alzheimer's Disease

A research team at the UAMS Donald W. Reynolds Institute on Aging has discovered a potential new drug to prevent Alzheimer's disease in people who have the "Alzheimer's gene." Most Alzheimer's research nationally has focused on treatments to clear



away the brain's plaques and tangles associated with the disease, but the research led by Sue Griffin, Ph.D., director of research at the Institute,



and Meenakshisundaram Balasubramaniam, Ph.D., an assistant professor in the Department of Geriatrics, focused on prevention.

The findings were published Jan. 8 in Communications Biology and include discoveries of a druggable target and a drug candidate, made by Balasubramaniam, the paper's first author.

Griffin said no other research team has found a potential drug specifically for blocking the harmful effects of the inherited Alzheimer's gene, Apolipoprotein E4, which an estimated 50-65% of people with Alzheimer's disease have inherited from one or both parents.

A provisional patent has been awarded on the drug candidate, and full patent approval is pending.

Save the Date! Informal **Networking Meetings with Renowned Lecturers!**

A great way to build and foster relationships with digestive disease specialists at UAMS and across the state is to attend quarterly club meetings for physicians.

The following UAMS Gut Club meetings, where important topics in GI health are explored in a casual environment that fosters discussion and collaboration, will be held from 6 to 8 p.m. on the 12th floor of the UAMS Jackson T. Stephens Spine & Neurosciences Institute in Little Rock, with the following presenters and topics:



May 9: Ajita S. Prabhu, M.D., an associate professor of surgery at The Cleveland Clinic in Ohio, "Modern Hernia Care."



August 8: Mohammad Alomari, M.D., joining UAMS in July as an assistant professor of gastroenterology/ hepatology, "IBUS and IBD."



October 17: Raman Muthuswamy, M.D., a professor in the endoscopy division at UCLA Health System in Los Angeles, "Updates in Barrett's Esophagus."

To attend virtually, you must obtain the Zoom login information ahead of time at: Go.UAMS.edu/GutClub

UAMS Re-Designated as a Level 1 Trauma Center



In January, the American College of Surgeons again designated UAMS as the state's only adult Level 1 Trauma Center, which means that it has a multidisciplinary team of health care professionals always prepared to treat the most complex trauma patients.

UAMS first achieved Level 1 verification in 2017. The most recent designation lasts through Jan. 10, 2027.



The ACS called UAMS a "high-functioning trauma center [that] serves as the flagship trauma center for the state of Arkansas," and praised Kyle J. Kalkwarf, M.D., trauma medical director, and Terry Collins, RN, trauma program director, for their management of the program.

(Continued on page 4)

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CONSULT Quiz of the Month

QUESTION

A 32-year-old female non-smoker presents with a several-month history of dyspnea on exertion. She has previous history of a spontaneous pneumothorax. A representative CT image is shown. What is the most likely diagnosis?

- a. Pulmonary Langerhans cell histiocytosis (PLCH)
- b. Emphysema due to alpha-1-antitrypsin deficiency
- c. Sarcoidosis
- d. Pulmonary lymphangioleiomyomatosis (LAM)
- e. Lymphocytic interstitial pneumonia (LIP)

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News to Know: Updates from UAMS

(Continued from page 3)

Cardiology Luminaries Michael Luna, M.D., and Kapil Yadav, M.D., Join UAMS



Cardiologists Michael Luna, M.D., and Kapil Yadav, M.D., have joined the UAMS Medicine Division of



Department of Internal Cardiovascular Services. Luna, a professor

of cardiology, is a nationally recognized leader in structural and congenital heart disease

in adults and children. He came to UAMS from the Dallas VA Medical Center and UT Southwestern Medical Center in Dallas, where he earned his medical degree in 2005, then

completed a residency in internal medicine and three cardiovascular fellowships in heart disease and pediatric interventional cardiology.

Yadav, an established interventional cardiologist in central Arkansas, moved his practice to UAMS to lead its Nuclear Cardiology and Vascular Medicine Program. An associate professor of cardiology, he has wide clinical interests and will strengthen noninvasive cardiology services at UAMS, particularly nuclear cardiology, as well as interventional cardiology services.

He is fellowship-trained in interventional and structural

UAMS Establishes Institute for Community Health Innovation

The University of Arkansas for Medical Sciences (UAMS) on March 1 announced the establishment of the Institute for Community Health Innovation to work with communities across Arkansas to conduct community-based research and deploy community-driven programs to improve health outcomes in rural and medically underserved regions of the state.

As the eighth of UAMS' institutes, which are centers of gravity where clinical, academic and research activities are organized around a specific mission, it is the only one based in Northwest Arkansas, though it will have staff and offices across the state, including in Batesville, El Dorado, Fort Smith, Helena-West Helena, Jonesboro, Lake Village, Little Rock, Magnolia, Pine Bluff and Texarkana.



Pearl McElfish, Ph.D., MBA, who has more than 20 years of experience implementing innovative community health

programs and community-based research, is the founding director. A professor in the College of Medicine, she was director of the Office of Community Health and Research.

cardiology, and in cardiovascular disease. He completed a residency in internal medicine at Cook County Hospital in Chicago in 2014, after earning his medical degree from SMS Medical College in India, with rotations at Mt. Sinai School of Medicine in New York City.

Both will see patients at the UAMS Outpatient Center, and Yadav will also see patients on Fridays at the UAMS Health Neighborhood Clinic in Maumelle. To refer a patient to either, call 501-686-8000 or 866-826-7362, or send a fax to 501-603-1538.

Access to Cancer Clinical Trials

The Clinical Trials Office at the Winthrop P. Rockefeller Cancer Institute at the University of Arkansas for Medical Sciences offers the largest number of therapeutic clinical trials in the state of Arkansas. We are the state's only academic cancer research center and home to the only Phase 1 Clinical Trials Unit in Arkansas testing novel, first in-human immunotherapies that offer hope for patients with the most advanced stage cancers. Our commitment is to make a difference in the lives of Arkansans and cancer care throughout the state.

Call 501 686 8274 to inquire if your patients may qualify for a clinical trial.

UAMS PHYSICIAN RECRUITMENT & PROVIDER PLACEMENT PROGRAM

The UAMS Physician **Recruitment & Provider** Placement Program has a team of placement specialists dedicated to serving the recruitment needs of our partner communities, UAMS regional programs and UAMS faculty. Physician/ provider opportunities are available in many specialties throughout Arkansas.

FEATURED JOBS

Specialists needed in Pine Bluff: Jefferson Regional Medical Center is looking for specialists in gastroenterology, pulmonary/critical care, orthopaedics and trauma/critical care surgery.

Outpatient Neurologists: UAMS is seeking neurologists to work in the outpatient setting with focuses in neuromuscular disease, neuroimmunology/ MS, headache and general neurology.

Family Medicine Faculty - Crossett: Family Clinic of Ashley County is starting a rural training program with UAMS for family medicine residents. Competitive base salary of \$260,000, with up to \$300,000 annual earning potential!

Contact Carla Alexander (501-686-7934 or carla@UAMS.edu) to find out more about recruitment services.

> Visit MedJobsArkansas.com for a complete listing of job descriptions and opportunities. Follow MedJobArkansas:



PHYSICIAN PROFILE

Cover story continued

He said the primary recipients for kidneypancreas transplants will be Type 1 diabetics, but Type 2 diabetics may eventually be able to have the transplants at UAMS as well.

While the Arkansas Department of Health reports that 13% of the population in Arkansas has been diagnosed with diabetes, a precursor for pancreatic cancer, and hundreds of thousands more Arkansans are believed to have prediabetes, Patel said UAMS expects to perform only a handful of kidney-pancreas transplants.

This is because of the "finicky nature" of the pancreas, very precise donor criteria and the propensity for complications, which makes pancreas transplants rare in general.

After a listed patient is matched to an available donor pancreas and kidney, the transplant itself generally takes four to five hours, including removal of the donor organs, the separate implantation of them in the recipient through a single incision, and the restoration of blood flow.

Patel said an added benefit of UAMS performing kidney-pancreas transplants is that it will help patients awaiting kidney transplants move up the waiting list more quickly, because the waiting list is shorter for people who need both organs instead of just a kidney. He said the first kidney-transplant patient waited about a month before the organs became available.

In a report issued in January by the Scientific Registry of Transplant Recipients (SRTR), which regularly compares the nation's 256 kidney transplant programs and 150 liver transplant programs for the U.S. Department of Health and Human Services, UAMS' kidney and liver transplant programs both scored five out of five bars — the highest score possible — for the speed of obtaining an organ from a deceased donor after getting on the waiting list.

That category, according to the SRTR, has the largest impact on survival.

Meanwhile, UAMS, which operates the only adult liver and kidney transplant programs in Arkansas, more than doubled its transplant volume between 2018 and 2023, said **Lyle Burdine, M.D., Ph.D.**, director of solid organ transplants.



He credits "the effective team structure at UAMS that enables the delivery of world-class care comparable to any top-tier hospital in the United States."



MONIQUE SPILLMAN, M.D., Ph.D. Professor

Department of Obstetrics and Gynecology UAMS College of Medicine

What inspired you to become a doctor?

From childhood, I knew that I wanted to become a physician, even though no one in my family was in health care. I loved science and medicine and was always the kid with the science kits.

What do you like most about your specialty?

Gynecologic oncologists are unique in several ways. First, we have the privilege of caring for patients with cancer from the time they are diagnosed, through several years with both their battles and successes. We also incorporate both surgery and chemotherapies in our care of patients. Being able to do both surgery and chemotherapy is unique to our specialty and insures that we are always challenged in our practice.

What makes you unique among your peers?

I grew up in a very small town in Texas, where I graduated with a high school class of 19. Those early experiences in a rural setting and small town allow me to relate to patients who face the challenges of complex medicine in a rural setting. In addition, I pursued both a medical (clinical) degree as well as a doctoral degree in genetics and development. Having both degrees helps me to translate scientific knowledge into clinically relevant approaches, in a way that is easily understood.

What do you like about working at UAMS?

UAMS is the friendliest environment! It makes my day to see everyone saying "hello" to others walking down the hall.

What are your clinical specialties?

Women with all types of gynecologic cancers are welcome in my practice. I perform minimally invasive robotic surgeries as well as open procedures. I have an interest in inherited forms of cancer and perform risk reduction surgeries for women who are at elevated genetic risk. Chemotherapy and immunotherapies are also offered to patients in my practice, as well as clinical trials.

What is the phone number doctors can use to make a referral to you? New Patients: 501-296-1200

MEDICAL CASE STUDY: PROTON RADIATION THERAPY FOR HEAD AND NECK CANCER

Initial contact

In 2013, a 68-year-old woman was diagnosed with squamous cell carcinoma at the base of the tongue. She underwent surgery consisting of removal of the mass and a left modified neck mode dissection, followed by chemotherapy and radiation. In June 2023, a surveillance CT scan showed the cancer had returned.

Assessment

The scan revealed a large necrotic tongue mass measuring almost 5 cm with invasion into the intrinsic muscles of tongue, epiglottis and paraglottic region. A PET-CT evaluation confirmed a soft-tissue mass along the base of the tongue, with extension, as noted above.

Mauricio Moreno, M.D., a surgeon with the UAMS Department of Otolaryngology-Head and Neck Surgery, performed a total glossectomy, total pharyngectomy, left hemithyroidectomy, neck nodes dissection and reconstruction with anterolateral thigh tissue transfer. However, post-op pathology indicated invasive squamous cell cancer measuring almost 9 cm, which was positive for perineural and extensive lymphovascular invasion, staging it as pT4a NOMO.

The head and neck surgery team met with medical oncologists, radiation oncologists and radiologists at UAMS, and adjuvant radiation treatment with concurrent chemotherapy was recommended.

Given the prior history of radiation treatment, **Santanu Samanta, M.D.**, an assistant professor in the UAMS Department of Radiation Oncology, recommended proton therapy. This would precisely target radiation at the post-op surgical site to prevent recurrence of the cancer while significantly reducing radiation to the surrounding structures: the spinal cord, brain stem, esophagus, brain, oral cavity and nasal cavity.



These images show the high doses of proton therapy that the patient received in red, and the lower doses in green and blue. There is no radiation beyond the blue lines.

Procedure

Treatment occurred at the Proton Center of Arkansas at UAMS, which opened Sept. 27, 2023, as a collaboration between UAMS, Arkansas Children's, Baptist Health and Proton International. It is the only proton center in Arkansas.

On an initial visit, the patient lay face-up while a mask was made for her face and neck that she could wear during subsequent visits. Then a CT scan was performed to allow a customized radiation plan to be developed, with special attention given to how the radiation beams would come from different directions to precisely target the post-op site while minimizing toxicity to the critical structures. Quality assurance checks followed to ensure the plan's safety and effectiveness.

The radiation was delivered during subsequent visits lasting 30 minutes a day, five days a week, for a total of 30 treatments over six weeks. During each session, the patient lay on her back on a special couch, wearing the mask, and a low-energy CT scan ensured that she remained in the correct position while the proton therapy was delivered.



The patient wears a special mask that was customized to her face and neck.

Proton therapy works by delivering energy precisely to the target to which it is directed, using protons generated from a cyclotron, a type of particle accelerator. The energy carried by the proton particles stop at the target, damaging the cancer cells by destroying the DNA in the nucleus of the cancer cells. But because the proton particles stop at a specific depth, no energy or radiation escapes beyond the target.

Unlike standard radiation with X-rays, there is no exit dose, and this makes proton therapy more precise than standard radiation.



(Continued from page 6)

Follow-up

After completion of the treatment, the patient returned to the clinic about two months later. She underwent a CT scan that showed no evidence of recurrence. She had fully recovered from the side effects of radiation treatment, which included some soreness, dry mouth and sticky saliva, all of which are much less intense with proton therapy.

Discussion

The patient, who had a recurrence of cancer in the oral cavity, had undergone extensive surgery 10 years earlier, and based on the pathology report, had a high chance of recurrence without any adjuvant radiation.

It is important to note that a second course of radiation could be very challenging for someone who previously had a full course of radiation, because standard radiation treatment could deliver unnecessary and potentially harmful extra radiation to the spinal cord, brainstem, oral cavity and nasal cavity.

Hence, proton therapy is essential in this type of situation. Proton therapy provides a precise radiation dose to the post-op surgical site to reduce the chance of recurrence. It also minimizes radiation to the nearby structures — notably, the spinal cord, brain scan, nasal cavity, oral cavity, esophagus and lung.

This unique technology is for patients who need a repeat course of radiation treatments, as well as for pediatric patients for whom radiation treatment is absolutely indicated.



The red arrow shows the recurrent mass in the patient's neck before proton therapy



This follow-up CT scan after the proton therapy shows no evidence of disease or recurrence.

Santanu Samanta, M.D.



Director of UAMS-Baptist Health Radiation Oncology Center

Assistant Professor

Department of Radiation Oncology & Proton Center of Arkansas

UAMS College of Medicine

Education

Doctor of Medicine, University of Calcutta, West Bengal, India

Residency

Radiation Oncology, University of Maryland Medical Center and Maryland Proton Center

Fellowship

Maryland Department of Radiation Oncology, Division of Translational Radiation Sciences

Mauricio Moreno, M.D.



Professor and Vice Chair for Adult Services

Director, Head and Neck Division

Department of Otolaryngology - Head and Neck Surgery UAMS College of Medicine

Education

Doctor of Medicine, Pontificia Universidad Catolica de Chile School of Medicine, Santiago, Chile

Residency

General Surgery, University of Valparaiso in Chile

Otolaryngology-Head and Neck Surgery, University of Chile, Santiago, Chile

Fellowship

Head and Neck Surgical Oncology, Microvascular Reconstructive Surgery, Surgical Endocrinology University of Texas M.D. Anderson Cancer Center, Houston



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APRIL 9

Damage Control Resuscitation Joseph Margolick, MD Department of Surgery/Division of Trauma and Surgical Critical Care

APRIL 16

Transplant Oncology- The Current State of Affairs Emmanouil Giorgakis, MD Department of Surgery Transplant

APRIL 23

Update on the Management of Parkinson's Disease Tuhin Virmani, MD *Department of Neurology*

APRIL 30 Title-TBD

J. Craig Wilson, JD, MPA ACHI Health Policy Director

MAY 7

Women Health-Pelvic Pain Alexis White, MD Department of Obstetrics and Gynecology

MAY 14

Thoracic Surgery Update Nicholas Tingquist, MD Department of Surgery, Thoracic

MAY 21-

Medical Malpractice & Medico-Legal Hot Topics Catherine Corless, JD UAMS Associate General Counsel

MAY 28- HOLIDAY

JUNE 4 Pediatric Pars Defect/Fracture Tomoka Tanaka, MD Department of Neurosurgery

JUNE 11

Multiple Myeloma Sharmilian Thanendrarajan, MD Department of Internal Medicine/ Myeloma Clinic

JUNE 18

Traumatic Brain Injuries Damon Lipinski, PhD Department of Pediatric Psychology

JUNE 25

Stress Management Tracy Haselow, MD Department of Psychiatry Director of Student, Resident and Faculty Wellness Programs

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