

# Advanced Interventional Oncology Services

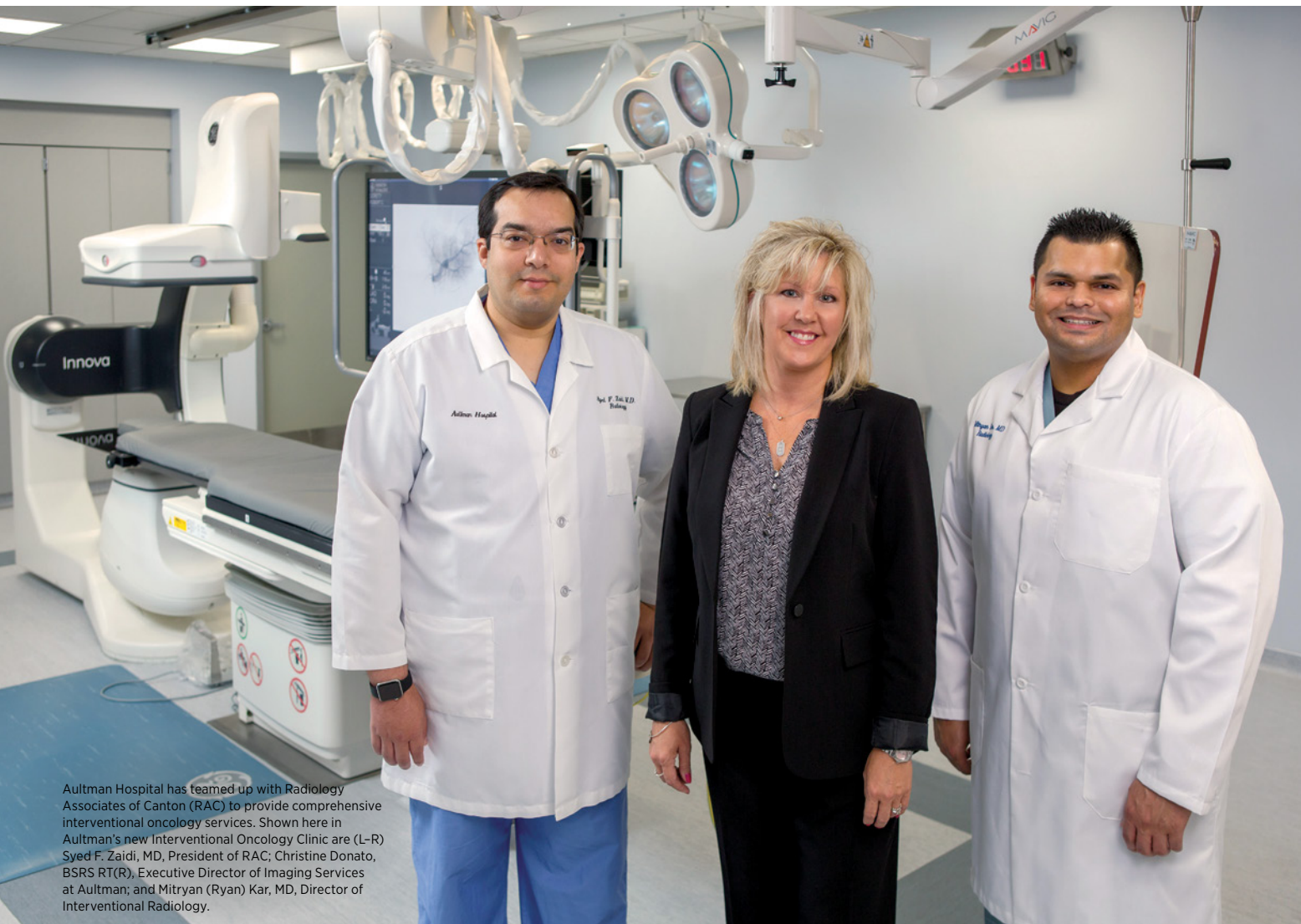
## Now at Aultman

By Robert Janek

**C**HEMOTHERAPY, RADIOTHERAPY and surgery have long been the three pillars of cancer care. Since the turn of the century, interventional oncology has been

recognized as the fourth pillar. Often a complementary or pre-treatment, interventional oncology is also used when other therapies have failed or are deemed unsafe for certain patients.

“With metastatic liver cancer, surgery and chemotherapy are often not an option to begin with, so that’s where interventional oncology comes in,” says Syed F. Zaidi, MD, President of Radiology Associates of Canton (RAC).



Aultman Hospital has teamed up with Radiology Associates of Canton (RAC) to provide comprehensive interventional oncology services. Shown here in Aultman’s new Interventional Oncology Clinic are (L-R) Syed F. Zaidi, MD, President of RAC; Christine Donato, BSRS RT(R), Executive Director of Imaging Services at Aultman; and Mitryan (Ryan) Kar, MD, Director of Interventional Radiology.



In Aultman's \$1.4 million 1,300-square-foot Interventional Oncology Clinic, procedures are performed with state-of-the-art image guidance technology and software.

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Since 1971, RAC has been providing comprehensive imaging and interventional radiology services to Stark and Summit County hospitals and private practices. Recently, RAC teamed up with Aultman Hospital to provide comprehensive interventional oncology services previously available reliably only in Cleveland.

“We’re now providing the most advanced interventional radiology services right here in the community, and that fits in with our whole population health plan,” says Dr. Zaidi.

According to Christine Donato, BSRS RT(R), Executive Director of Imaging Services at Aultman, it took several years to build, equip and staff the \$1.4 million 1,300 square-foot Interventional Oncology Clinic and to obtain the necessary credentialing. In late 2014, the clinic opened. The response? Absolutely amazing, according to Donato.

“Our new interventional oncology program has just ballooned way beyond what I had initially anticipated,” she says. “The radiologists and the oncologists and the referring physicians are working very collaboratively to really give the patients every possible option here.”

Those options include:

- + intra-arterial interventions, such as chemoembolization and selective internal radiation therapy (SIRT);

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- + tumor ablations using cryotherapy, radiofrequency and microwave; and

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- + palliation services, such as implanting gastrostomy tubes, ports, thoracic and peritoneal drains, biliary stents, and IVC filters.

All are performed with state-of-the-art image guidance technology and software installed just last year in Aultman's Interventional Oncology Clinic.

### **Comprehensive Care Close to Home**

Donato explains that, in the past, only the Cleveland tertiary care hospitals were equipped to reliably provide this type of care. Patients — especially those in southern Stark County — often balked at driving the long distance for treatment.

“Sometimes, patients would opt to not have treatment at all rather than make the repeated trips to Cleveland for care,” Donato says. “So Aultman made the

investment in a facility and technology and recruited a subspecialist to offer these critical and unique cancer treatments here. And the response has been amazing.”

Mitryan (Ryan) Kar, MD, is the subspecialist who was recruited to lead this program. A graduate of George Washington University School of Medicine in Washington, Dr. Kar completed a residency in Radiology at Aultman Hospital, Mercy Medical Center and Northeast Ohio Medical University (NEOMED) followed by fellowship training in Vascular and Interventional Radiology at Henry Ford Hospital in Detroit. He joined RAC and Aultman in 2014 and became Director of Interventional Radiology in 2015.

“Interventional oncology throughout the U.S. and around the world is taking an important role as a multidisciplinary way of treating patients with primary and metastatic cancer of the liver, adrenal glands, kidneys and lungs,” Dr. Kar explains. “Aultman invested in this program to provide residents of Stark County and surrounding areas with the very best care ... with new ways of attacking their cancer, prolonging their life and improving their quality of life.”

### **SIRT**

One of the most advanced interventional oncology treatments now offered at Aultman is SIRT, aka yttrium-90 (Y-90), which provides targeted radiation to unresectable metastatic liver tumors. SIRT involves image-guided placement of a transfemoral microcatheter in the hepatic artery. Millions of Y-90 microscopic beads are then selectively implanted in the microvascular arterial supply of the tumor where they remain active for several weeks, killing cancer cells while sparing surrounding healthy liver tissue. Patients are usually able to go home four to six hours after the procedure.

According to Dr. Kar, SIRT has better outcomes than external radiation therapy, and the side effects are few. Most patients experience only flu-like symptoms for a period of one to two weeks after the procedure.

“The Y-90 microscopic beads we use are Sirtex's SIR-Spheres Y-90 resin

microspheres,” he says. “More than 50,000 doses of these microspheres have been supplied worldwide since 2002, so it’s not a brand new treatment. It’s just not been available in Stark County until this year. Aultman is currently one of only a few cancer programs in Ohio offering SIRT.”

Patients eligible for SIRT may include those with:

+ Colorectal cancer with unresectable liver metastases

+ Bilirubin of <2.0

+ Less than 60 percent tumor involvement

+ ECOG performance score <2

### Chemoembolization

Like SIRT, chemoembolization is also indicated for patients with unresectable liver cancer — primary as well as metastatic. It’s also similar to SIRT in delivery. The difference is in the type of material being injected into the tumor. Chemoembolization micro beads contain a chemo drug (Doxorubicin, Cisplatin, Mitomycin, or Irinotecan); SIRT beads contain a radiopharmaceutical. In addition to the chemo drug, chemoembolization beads may include an ischemia-producing material to close off the tumor’s blood supply.

“We use chemoembolization where the lesions are localized and systemic chemotherapy has not worked, as indicated by the lesions continuing to grow,” Dr. Kar explains. “The goal is to help the patient along to remission and prolong his or her life.”

And because chemoembolization treats the liver directly, the systemic effects are reduced, which improves the patient’s quality of life.

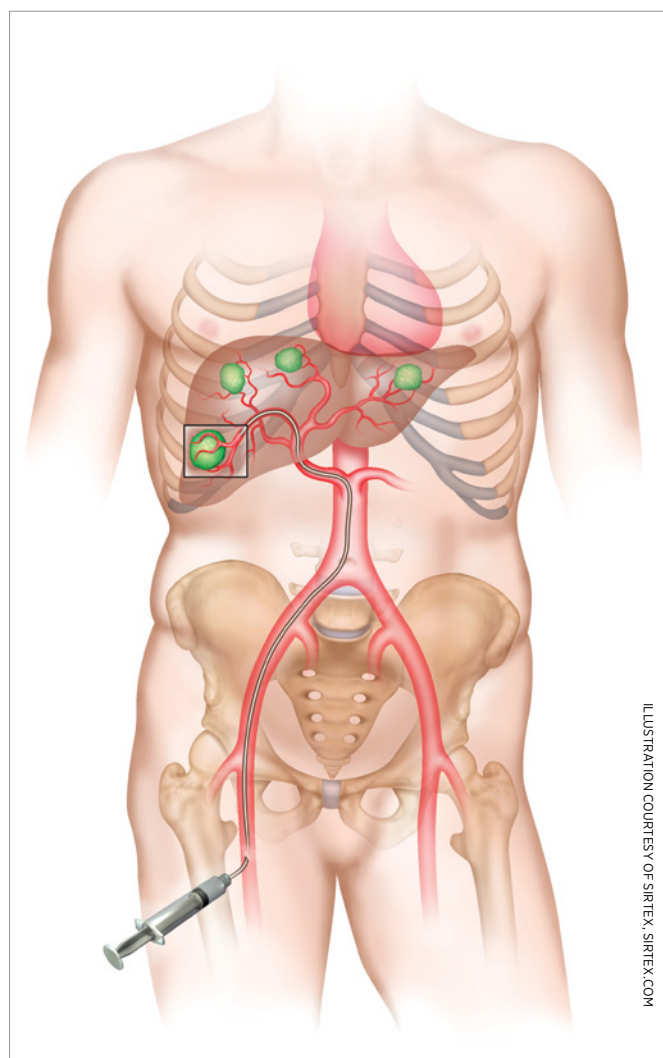
### Tumor Ablation

In patients with tumors in the liver, kidneys and lungs that are inoperable via conventional means, or the risk of surgery or anesthesia outweighs the benefits, image guided ablations may be more appropriate. Aultman offers three different types of tumor ablation: radiofrequency and microwave — both of which utilize heat to ablate tumors — and cryotherapy, which freezes the tumor cells. The procedure involves passing a probe through the skin into the tumor to heat or freeze the tumor and destroy it. The location of the tumor determines the type of ablation.

“Once a patient is referred, our physicians get all of the testing done to determine which type of treatment the patient is best suited for,” says Donato. “Our doctors work closely with each patient’s oncologist and other referring physicians throughout the entire process — up until that episode of care has been completed. And then the patient is sent back to the referring physician to continue their care.”

### Trans-jugular Liver Biopsy and TIPS

In addition to interventions for cancer, Aultman offers other advanced liver-based procedures, such as trans-jugular liver



One of the most advanced interventional oncology treatments now offered at Aultman Hospital is Selective Internal Radiation Therapy (SIRT), which provides targeted radiation to unresectable metastatic liver tumors. SIRT involves image-guided placement of a transfemoral microcatheter in the hepatic artery, through which Y-90 microscopic beads are then selectively implanted in the microvascular arterial supply of the tumor to kill cancer cells.

biopsy, trans-jugular intrahepatic portosystemic shunt placement (TIPS), and balloon-occluded retrograde transvenous obliteration (BRTO).

“Trans-jugular liver biopsy is the preferred method of liver biopsy for patients who have a high risk of bleeding from liver disease,” Dr. Kar says. “Usually the gastroenterologists order this when they want to diagnose the degree of cirrhosis in a patient or, if a patient has hepatitis C, they order it to get a better idea of which medication will work best.”

He explains that patients may be cirrhotic from hepatitis B or C, or from a history of alcoholism, or from liver disease that has progressed to cirrhosis from chronic inflammation in the liver. Because these patients’ livers are not functioning correctly, they will have increased pressure in the portal vein system resulting in fluid accumulation in the abdomen. When frequent tapping is required to drain the fluid, TIPS is an option.



Interventional radiology is a team effort. Shown here are a few members of Aultman's team.

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“TIPS involves trans-jugular placement of a shunt between the portal vein system and the systemic systems to decrease the pressure in the portal system and decrease the amount of fluid that accumulates in the belly,” says Dr. Kar. “TIPS is also used to control bleeding in patients who have cirrhosis and develop varices [abnormal veins].”

### **BRTO**

BRTO is an alternative to TIPS. It's indicated for patients with bleeding related to gastric varices. The procedure involves blocking the blood from the left renal vein to the abnormal veins around the stomach using a sclerosing agent or coils delivered through a balloon catheter.

“TIPS may worsen hepatic encephalopathy if preexisting hepatic encephalopathy is poorly controlled medically,” Dr. Kar explains. “So, instead, we do BRTO.”

Dr. Kar, along with all of RAC's interventional radiologists, offers many of these advanced treatments at Union Hospital in Dover, as well as at Aultman. They also perform routine paracentesis for patients with a build up of fluid from liver cancer, cirrhosis or other liver diseases, or heart disease.

“The focus for our group is to provide the most advanced interventional radiology therapy close to home,” says Dr. Zaidi.

“In partnership with Aultman, we now provide high level cancer treatments which are cutting edge and have been proven, based on published literature, to be quite successful and offer patients with cancer a longer life and a better quality of life.”

### **A Regional Referral Center**

“Aultman is committed to becoming a regional referral center,” says Donato. “We've really invested in the facilities, the technology, the staff, the structure and everything else needed. And as a result, we're able to recruit subspecialists like Dr. Kar.”

A new cancer surgeon has also been recruited. He is expected to join Aultman in January.

“Aultman is committing its full resources to cancer care,” Dr. Zaidi says. “They have their medical oncologists and radiation oncologists. They have us [RAC], and now they have a surgical oncologist, as well. And that's the whole team for comprehensive cancer care.”

*For more information about Aultman Hospital's cancer services, visit [aultman.org](http://aultman.org). For information about Radiology Associates of Canton, visit [radcanton.com](http://radcanton.com). To refer a patient to Dr. Ryan Kar, call 330-363-2842 ■*