Interventional Radiology

Local/Regional Therapies for Liver and Kidney Tumors

UAB Interventional Radiology has become an integral part of comprehensive patient care, providing less invasive techniques for the diagnosis and treatment of a range of health problems. Our program offers innovative and therapeutic treatment options for the management of tumors related to the liver and kidneys.

Transarterial Chemoembolization
Transarterial Chemoembolization (TACE) for tumors of the liver is a treatment that delivers chemotherapy drugs directly into the artery that is providing the blood supply to the tumor. Because chemotherapy is injected directly into the tumor site, the dosage received is significantly greater than that which is achieved through standard systemic chemotherapy.

With chemotherapy beads blocking blood flow to the tumor, the drugs are allowed to remain in the tumor for a longer period of time. Depriving the tumor from its blood supply then results in ischemic necrosis of the tumor. Additionally, patients experience fewer side effects since the chemotherapy is trapped in the tumor rather than circulating throughout the body.

This therapy is available for both hepatocellular carcinoma originating in the liver or cancers that have metastasized to the liver, including:

- Colon cancer
- Breast Cancer
- Carcinoid and neuroendocrine tumors
- Islet cell tumors of the pancreas
- Melanoma
- Sarcoma
- Other vascular primary tumors

Percutaneous Ablation
Percutaneous ablation is a minimally invasive, image-guided treatment where probes (no larger than the size of a needle) are placed through the skin and directed into the tumor by either ultrasound or computed tomography (CT) guidance. Different types of probes destroy the cancer cells in different ways. For example, radiofrequency ablation (RFA) and microwave ablation (MWA) create heat at the tip of the probes to destroy the cancerous cells. For irreversible electroporation (IRE), an electric current is created in between the probes which destabilizes cell membranes, leading to their death. Percutaneous ablation is often performed as a ‘same-day’ or out-patient procedure and can be used in addition to chemotherapy or radiation therapy, or as an alternative to surgery.

Cryoablation
Cryoablation is another form of percutaneous ablation which delivers cold gas through the probe, thus freezing and destroying tumor cells. While cryoablation is primarily used in the treatment of renal cancer cell carcinoma, it may also be used to treat cancerous tumors in various other organs.

Cryoablation is a viable and effective treatment option of renal tumors when the patient:

- Has only one kidney
- Has co-morbid conditions posing a risk to surgery or may have difficulty with post-surgical recovery
- Has renal tumors of less than 4 cm in size
- Has familial predisposition to multiple kidney tumors

Our Specialists

Ahmed Kamel Abdel Aal, MD, PhD
Chief, Vascular & Interventional Radiology
Co-Medical Director, Heart & Vascular Center
Expertise: Oncologic Interventions, Arterial Interventions, Spine Interventions, DVT Management and Varicocele Embolization

David Bolus, MD
Professor, Radiology
Expertise: Microwave ablation, Radiofrequency Ablation, Cryoablation, Irreversible Electroporation and Intra-operative Ultrasound

Nathan Ertel, MD
Assistant Professor, Radiology
Expertise: Oncologic Interventions (Chemoembolization, Radioembolization and Ablation), Hepatobiliary Procedures, TIPS and Thoracic Duct Embolization

AJ Gunn, MD
Assistant Professor, Radiology
Expertise: Oncologic Interventions (Chemoembolization, Radioembolization and Ablation), Inferior Vena Cava Filter Retrieval, Uterine Fibroid Embolization, Deep Venous Thrombosis and Pulmonary Embolism

Rachel F. Oser, MD
Associate Professor, Radiology
Expertise: Oncologic Interventions, Women’s Health and Uterine Fibroid Embolization

Souheil Saddekni, MD, FSIR, FAHA
Professor, Radiology and Medicine
Expertise: Liver and Biliary Interventions, Tumor Chemoembolization and Radioembolization, TIPS, AVMs, Varicoceles, Angioplasty/stents and IR Techniques

Edgar S. Underwood, MD
Associate Professor, Radiology
Expertise: Vertebroplasty, Kyphoplasty, Cryoablation and Microwave Ablation

For Referring Physicians
For consultations or referrals, please call UAB MIST at 1.800.UAB.MIST or 1.800.822.6478 to be connected with Interventional Radiology. Interventional Radiology is located on the 3rd Floor of The Kirlin Clinic of UAB Hospital and the 6th Floor of UAB Hospital’s North Pavilion in the Heart and Vascular Center, at 1802 6th Avenue South, Birmingham, AL 35233.

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