Interventional Oncology: Moving Cancer Care Forward

Kevin Kim, MD

Often referred to as the fourth pillar of oncology, alongside medical, radiation, and surgical oncology, Interventional Oncology is a young, but rapidly evolving field. Led by Kevin Kim, MD, Professor of Radiology and Medicine (Medical Oncology) at Yale School of Medicine, the Interventional Oncology Program at Smilow Cancer Hospital provides patients with additional treatment options for personalized cancer care.

Interventional Oncology was developed as a subspecialty of Interventional Radiology to provide definitive or palliative treatments of solid tumors using targeted, minimally invasive procedures performed under precision image-guidance. Procedures such as embolotherapy, immunoeoembolization, chemoembolization, Y90 radioembolization (selective delivery of immunotherapy, chemotherapy and radioactive particles targeted directly to the tumor), and thermal ablation (microwave ablation, radiofrequency ablation, cryoablation, and irreversible electroporation to heat, freeze or electrosurge and destroy cancer cells) can be delivered as primary or adjuvant treatment, as part of a multidisciplinary care plan. Therapeutic options are also used for palliative care, including various therapies for pain relief, particularly for bone, soft tissue, and spine tumors, and are designed specifically to relieve pain caused by primary or metastatic tumors during cancer treatment, and to gain local control of a cancer so that other therapies can be effective.

One of the first programs of its kind in the country and one of the largest, the Interventional Oncology Program at Smilow is committed to treating patients with multiple types of cancers. First explored using liver directed therapies for liver cancers, Interventional Oncology has grown to become an integral part of the Gastrointestinal, Melanoma, Lung, Sarcoma, and Prostate and Urologic Cancer Programs. In addition, as participants of the Multidisciplinary Pain Program at Smilow, Dr. Kim and his team of Interventional Oncologists also offer patients palliative interventions for solid tumors and bone metastasis.

"In my opinion, the field of Interventional Oncology is one of the most fascinating in cancer care right now," said Dr. Kim. "We are already able to offer top notch care to our patients at Smilow thanks to the expertise in medical, surgical, and radiation oncology, but now we are also able to offer another layer to enhance the potential high impact of treatment with minimal side effects. We can provide more treatment options and clinical trial opportunities for our patients as well."

After undergoing a grueling regimen of chemotherapy to treat colon cancer that had spread to her liver, Ms. Jo-Anne Gauger was ready to stop treatment. That is until her physician at the Smilow Care Center in Torrington, Dr. Christina Gomez, suggested she meet with Dr. Kim to discuss new options. Dr. Kim determined that she was a candidate for microwave ablation to treat the metastatic disease on her liver. The results have been life-changing.

"I was able to go to work the next day and have since undergone the treatment again to treat a small spot that remained on my liver," said Ms. Gauger. "To have a 'chemo vacation' as we came to call it, is truly a blessing for patients like me. I had lost fifty pounds and chemotherapy was taking a huge toll on me both physical and mentally. As long as the cancer remains contained to my liver, I can continue to be monitored and treated this way without the need for chemotherapy. I now feel like I did 2 ½ years ago before I was diagnosed with cancer. I just hope that other patients out there realize there are other options." S

Smilow multidisciplinary tumor boards are one way that Dr. Kim collaborates with other oncology experts throughout the hospital to provide the most effective cancer care for patients. As a part of precision image-guided cancer care, there are constantly new advances in Interventional Oncology that make existing therapies more effective and limit exposure to non-cancerous tissue. "For both patients and cancer providers, this is truly an amazing time, and what would have once been a major procedure for a patient, can now be done through a small incision that causes no scarring and with little to no recovery time," said Dr. Kim. "It is not only more convenient and comfortable for patients, but it provides enhancements of quality of life and outcomes. The benefit for our patients is immeasurable."

Dr. Kim’s goals for the Program are to make safe and effective novel interventional treatments more available and accessible to patients, and to find ways to advance cancer care in the clinic via innovative research. He commented that he goes to bed thinking about cancer therapies and wakes up thinking about new ways that these therapies can benefit patients. Indeed, the Interventional Oncology Program at Smilow leads their field with novel research. Working in collaboration with colleagues throughout Smilow Cancer Hospital to enhance treatment for their patients is their top priority.