

## **Interventional Radiology** **Radiofrequency Ablation of Liver Tumors**

### **About the procedure**

A special needle electrode is placed in the tumor under the guidance of an ultrasound unit or CT scanner. A radiofrequency current then is passed through the electrode to heat the tumor tissue near the needle tip and ablate—or eliminate—it. The heat from radiofrequency energy also closes up small blood vessels, therefore reducing the risk of bleeding.

Radiofrequency ablation works by passing electrical current in the form of radiofrequency waves between the needle electrode and the grounding pads placed on the patient's skin. The current creates heat around the electrode inside the tumor and spreads out to destroy the entire tumor killing the tumor immediately. Because healthy liver tissue withstands more heat than a tumor, radiofrequency ablation is able to destroy a tumor and a small rim of normal tissue about its edges without affecting most of the normal liver. The dead tumor cells are gradually replaced by scar tissue that shrinks over time.

Two types of liver tumors are generally good candidates for radiofrequency ablation, carcinoma, which is a primary liver cancer, and colon cancer that spreads to the liver. Many patients with a malignant liver tumor are not good candidates for surgery, sometimes because their tumor is too widespread or inaccessible, or because of other medical conditions that make surgery especially risky.

Radiofrequency ablation causes only minimal discomfort and may be done as an outpatient procedure with anesthesia. Admission to the hospital is not usually necessary.

### **What happens after the procedure?**

Once the treatment has been completed, the radiologist will remove the device and pressure will be applied to the site for a short time to prevent bleeding. You will be sent to a hospital room to recover for about six to eight hours.

You will be sent home with prescriptions for oral antibiotics, pain medication, and medication for nausea. Fever may occur for up to one week after the procedure. If your pain suddenly becomes worse or changes in character, or your fever becomes higher, let your physician know immediately. Patients will return for a CT or MRI scan in about three months to see how much the tumor has shrunk.

### **What are the benefits and the risks?**

The benefit of radiofrequency ablation is that it is less invasive than an open surgical procedure, which may require general anesthesia. Patients also may not be candidates for surgery due to the size or number of tumors or their overall health, making radiofrequency ablation a good alternative treatment.

The risks may include infection or bleeding. The bleeding usually stops on its own, but if it is severe, an additional procedure or surgery may be needed to control it.

Depending on the site of treatment, radiofrequency ablation may cause shoulder pain, inflammation of the gallbladder, damage to the bile ducts resulting in biliary obstruction, or heat damage to the bowel.

### **How long does the procedure take?**

This test will take approximately 2 hours, but may go longer based on the treatment needs of the patient.

### **How do I get the results?**

The radiologist will advise you as the success of the procedure once it is completed. Any follow up testing will be scheduled with your regular physician.

### **How to prepare**

- You will be asked to avoid food and liquids starting at midnight the evening before treatment.
- Your doctor will tell you which medications you may take in the morning.
- If you take aspirin, you may be instructed to stop 10 days beforehand. Consult your doctor if you are taking Coumadin or another blood thinner.
- This test is scheduled through our Central Scheduling department 757-6475. The schedulers are available from 8:30 a.m. to 5:00 p.m., Monday through Friday.
- Patients who have had their films at another facility must bring them in by at least one day prior to the procedure so the radiologist can review them.
- Bring the order for the procedure.
- You will need to have someone drive you home after you are released from the hospital post-procedure since you will be receiving sedation.
- Wear comfortable clothing that can be easily removed for the scan, such as loose slacks, sweatpants, tee shirts or sweatshirts.
- Arrive at the hospital 15 minutes before the start of your test if an admitting clerk has registered you over the phone in the day or days prior to your test.
- Park in the hospital parking lot near the Admitting Entrance, and enter through the Admitting doors.
- Report to Radiology the day of your procedure.
- You will need to bring with you a picture I.D. for identification and your insurance cards.
- If you have any questions about registration, scheduling, or insurance, contact the admitting department at 757-6217.
- If you have any questions, please call the CT Scan department at (219) 757-6139, or Ultrasound at (219) 757-6320, extension 1137.