

RFA (radiofrequency ablation)

BACKGROUND

Radiofrequency ablation (RFA) is a procedure that destroys tumor cells by heating them using a needle electrode and high-frequency electrical currents. Ultrasound or CT imaging may be used to help the radiologist guide the needle into the tumor.

Radiofrequency ablation works by passing electrical currents in the range of radiofrequency waves between the needle electrode and the grounding pads placed on the patient's skin. These currents create heat around the electrode, which when directed into the tumor, heats and destroys the cancer cells. At the same time, heat from radiofrequency energy closes small blood vessels and lessens the risk of bleeding. The dead tumor cells are gradually replaced by scar tissue that shrinks over time.

Benefits

Radiofrequency ablation can be an effective treatment for primary liver cancer and for cancers that have spread to the liver in select patients whose liver tumors are unsuitable for surgical resection. In most studies, more than half of the liver tumors treated by radiofrequency ablation have not recurred. The success rate for completely eliminating small liver tumors is greater than 85 percent. Treatment-related serious complications are infrequent and discomfort is minimal. Radiofrequency ablation may be used repeatedly to treat recurrent liver tumors.

The percutaneous method of radiofrequency ablation, in which electrodes are inserted through the skin, is minimally invasive, produces few complications, and does not require hospital admission. RFA is a relatively quick procedure and recovery is rapid so that chemotherapy may be resumed almost immediately in patients who need it.

No surgical incision is needed—only a small nick in the skin that does not have to be stitched closed.

Risk

Any procedure where the skin is penetrated carries a risk of infection. The chance of infection requiring antibiotic treatment appears to be less than one in 1,000.

Depending on the site of treatment, radiofrequency ablation may cause brief or, rarely, long-lasting shoulder pain; inflammation of the gallbladder that subsides after a few weeks. Roughly one in four patients may develop a "post-ablation syndrome" with flu-like symptoms that appear three to five days after the procedure and usually last about five days. An occasional patient may remain ill for two to three weeks. Acetaminophen or ibuprofen taken by mouth is commonly used to control fever and other symptoms. Some

cases of bleeding have been reported but it usually stops on its own. If bleeding is severe, an additional procedure or surgery may be needed to control it.

Organs and tissues near the liver, such as the gallbladder, bile ducts, diaphragm and bowel loops, are at risk of being injured. Although this occurs only 3 to 5 percent of the time, it may require surgical correction. The risk of this complication is related to the location of the liver tumor that is treated. Less than one percent of patients may develop a localized infection (abscess) at the site of the tumor ablation three to four weeks after the treatment. A liver abscess will require tube drainage and antibiotics to cure. Patients who have had a surgical procedure in which the liver bile duct has been connected to a loop of bowel are at much greater risk of developing a liver abscess after ablation.

DIET:

1. Increase your fluid intake for the next 24 hours.
2. You may resume your normal diet after the procedure.

ACTIVITY:

1. **AVOID** strenuous activities. Take it easy for 24-48 hours.
2. You have received sedatives, for the next 24 hours, **DO NOT** drive, operate machinery, sign legal documents, or drink alcohol.
3. You should be able to resume your usual activities within a few days.

SYMPTOMS TO REPORT TO YOUR DOCTOR:

1. Redness, pain and/or increase swelling at the puncture site.
2. Temperature greater than 100.6 F, chills, weakness, or lethargy.
3. Chills or flu like symptoms.
4. Any bleeding/drainage or hematoma at the puncture site.

FOLLOW-UP CARE

If you have any questions or concerns, please call the physician that referred you to Radiology. If you feel you need immediate attention and are unable to reach your physician, call 911 or go to Swedish Medical Center Emergency Department or the closest emergency facility.