

Living longer: Colon cancer patients gain time with radiofrequency ablation treatment

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Approximately half of Americans living with colorectal cancer will develop liver metastases at some point during the course of their disease. Radiofrequency ablation, a minimally invasive treatment that applies heat directly in the tumor causing cancer cell death with minimal associated injury to the surrounding healthy liver, contributes to prolongation of their life by nearly three years, note researchers at the Society of Interventional Radiology's 35th Annual Scientific Meeting in Tampa, Fla.

"Patients who have recurrent colon cancer in their liver after surgery can be treated with radiofrequency ablation, or RFA, and avoid repeated liver surgery," said Constantinos T. Sofocleous, M.D., Ph.D., FSIR, an interventional radiologist at Memorial Sloan-Kettering Cancer Center in New York, N.Y. "RFA kills target [cancer tissue](#) with heat, while sparing the healthy tissue. This is particularly important for patients who develop new colon cancer in the liver after prior surgery. In general, these patients have a smaller amount of liver tissue; another surgery is usually not possible or very difficult and associated with higher risk," added Sofocleous, an associate professor of radiology at Weill Cornell Medical College, New York, N.Y. "This research shows how interventional radiologists can treat patients who have failed a prior surgical treatment. In addition it demonstrates how the combination of all available treatment modalities and the cooperation of medical specialists can improve the outcomes and may prolong patients' lives," he explained.

[Colon cancer](#) is the second leading cause of cancer-related death in the

United States, with almost 150,000 new patients diagnosed each year, said Sofocleous. Approximately half of these patients will develop [liver metastases](#) at some point during the course of their disease; the majority of the patients are not candidates for surgery. "In those who undergo surgery, recurrence is a serious problem. Traditionally chemotherapy has been the only therapy. Radiofrequency ablation is a treatment that can destroy the tumor locally in the liver and—in combination with systemic and local hepatic arterial chemotherapy—it may extend the life of selected patients," he added.

"While the study did not make any direct comparisons to other treatments, survival rates after RFA were comparable to those of surgery," said Sofocleous. "We treated 56 patients—a highly selective population who had multiple prior treatments with surgery, systemic and local chemotherapy—using computed tomography- (CT) guided RFA—over a six-year period and had survival rates of 91 percent at one year, 66 percent at two years and 41 percent at three years," said Sofocleous. More importantly, these survival rates—or life extensions—are in addition to the patients' survival rates after surgery," added the co-author of "Radiofrequency Ablation of Recurrent Colorectal Cancer Hepatic Metastases After Hepatectomy."

Radiofrequency ablation can be performed without affecting a patient's overall health, and most people can be discharged from the hospital within 24 hours and resume their usual activities in a few days. In this treatment, an interventional radiologist uses imaging to guide a needle through the skin into the tumor. The needle deposits radiofrequency energy into the target tissue, where it produces heat and kills the cancerous cells, sparing healthy tissue.

Medical records and relevant imaging were reviewed to determine technical success, complications and local tumor progression. Average tumor size was 1.9 centimeters, with average overall survival rate being

31 months. A modified clinical risk score was used to analyze the correlation with survival and local tumor progression according to nodal status of the primary cancer, interval from primary to liver metastases, number of tumors and size of the largest tumor ablated. Patients and tumor characteristics with having two or less of these risks factors had the best outcomes. Researchers also evaluated the influence of hepatic artery infusion (pump) chemotherapy on local disease and overall survival.

Provided by Society of Interventional Radiology

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