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NEWS

RSNA Press Release

Outpatient Treatment Shrinks Liver Tumors to an Acceptable Size for Laser Procedure

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At A Glance

- Transarterial chemoembolizaton (TACE) is an outpatient procedure that reduces the size of liver tumors.
- The smaller tumors can then be treated with laser-induced thermotherapy (LITT).
- Using TACE with LITT, patients maintain a better quality of life.
- This treatment can also be applied to bone, lung and lymph node tumors.
- Using this treatment more than doubled the median survival of patients.

OAK BROOK, Ill. - Researchers in Germany are using a new combination treatment to first shrink and then kill liver tumors, according to a study appearing in the November issue of the journal *Radiology*.

The first part of the treatment, transarterial chemoembolization (TACE), is "a mixture of occlusion (closing off passages), reduction of the blood supply and chemotherapy to help decrease the size of the tumor," said study author Thomas J. Vogl, M.D., chairman of the Department of Diagnostic and Interventional Radiology at University Hospital Frankfurt, Germany.

Once the tumor is small enough, an interventional radiologist inserts laser fibers into the tumor and heats the tumor to 100 degrees in a procedure called laser-induced thermotherapy (LITT).

"This was initiated because we could not perform the laser therapy on tumors that were too large," Dr. Vogl said. "We see a lot of patients with liver tumors larger than 5 centimeters (about the size of a golf ball) and in the past we had to refuse them. We needed a way to reduce the tumor to a size where we could perform the laser treatment," he said.

Between March 1999 and December 2001, the researchers used TACE to treat 162 patients with liver tumors. Each patient underwent two to seven TACE treatments. The largest tumor measured 80 millimeters (a little over 3 inches) in diameter before treatment. The size of each tumor was measured before and during treatment using magnetic resonance (MR) imaging. If the diameter of the tumor decreased to less than 50 millimeters (just under 2 inches), the patient was treated with MR image-guided LITT.

Eighty-two patients (51%) responded successfully to TACE, with a mean reduction in tumor size of 35 percent, and were treated with LITT. In 47 patients no reduction in tumor size was achieved, and in 33 patients disease progression was found, leading to further TACE

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treatments or change to systemic chemotherapy.

"This treatment is local," Dr. Vogl said. "With local chemotherapy, the patients have no pain and don't lose their hair. This treatment allows us to be very aggressive in attacking the tumor, while maintaining a good quality of life for the patient," he said.

Median survival of patients who responded to this combined treatment was 26.2 months. In patients treated with only TACE, median survival was 12.8 months.

While Dr. Vogl and his colleagues have only used this combination treatment for liver tumors, he said it has applications for lung, bone and lymph node tumors as well. "These procedures are FDA accepted, and they're starting to be used all over Europe," he said.

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"Liver Metastases: Neoadjuvant Downsizing with Transarterial Chemoembolization before Laser-Induced Thermotherapy." Collaborating with Dr. Vogl on this paper were Martin G. Mack, M.D.; Jörn O. Balzer, M.D.; Kerstin Engelmann, M.D.; Ralf Straub, M.D.; Katrin Eichler, M.D.; Dirk Woitaschek, M.D.; and Stephan Zangos, M.D.; from the Department of Diagnostic and Interventional Radiology, University Hospital Frankfurt, Johann Wolfgang Goethe-University, Frankfurt/Main, Germany.

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