

New Jefferson trial to test radiation-emitting beads against advanced liver cancer

Liver cancer specialists at Jefferson's Kimmel Cancer Center in Philadelphia are beginning an 18-month study of a new treatment for liver cancer. The therapy entails injecting tiny beads that emit small amounts of radiation into the liver's main artery while also blocking the blood supply feeding the cancer's growth.

The technique, called radioembolization, has been approved by the federal Food and Drug Administration for use in inoperable liver cancer. This is the first time that the particular technology, called SIR-Spheres microspheres, which is FDA-approved for treating colon cancer that has spread to the liver, is being studied in patients with hepatocellular carcinoma, or primary liver cancer (cancer that originates in the liver). The trial, which is led by Brian Carr, M.D., FRCP, Ph.D., professor of Medical Oncology at Jefferson Medical College of Thomas Jefferson University, includes patients from the University of Texas' M.D. Anderson Cancer Center in Houston and the University of Pittsburgh.

According to Dr. Carr, who is chief of the liver tumor program at the Kimmel Cancer Center and Thomas Jefferson University Hospital, the technique uses approximately 30-times more beads than other types of radioembolization. The teams plan to enroll 10 patients initially, and perhaps as many as 40 altogether. "No one knows if radioembolization will be better than just radiation, even though there are theoretical grounds for it," he notes.

Dr. Carr and his colleagues are encouraged by results from a recent clinical trial showing the effectiveness of a similar technique against advanced liver cancer. Reporting recently in the journal *Hepatology*, Dr. Carr and physicians at Northwestern University in Chicago found that injecting another type of Yttrium-90-containing beads (TheraSphere®) was effective in treating inoperable liver cancer even in patients whose portal vein was blocked by tumor. The treatment, he says, was as good as or better than using the current standard called chemoembolization, which involves directly injecting chemotherapy drugs into the liver through the hepatic artery. Because it involves dangerous, cell-killing drugs, he notes, doctors have sought liver cancer treatments that have fewer toxic effects.

The treatment doesn't cure the cancer, but has been shown to often shrink tumors and help patients live longer. It can also be used for patients who have previously failed chemotherapy. "This extends the numbers of patients who can be treated with this much safer treatment," he says. "Using TheraSphere® is just as safe with or without portal vein thrombosis, so it looks like it's a wonderful new treatment. It's much safer because these patients don't get chemotherapy side effects, such as nausea, hair loss and they generally don't need to be in the hospital except for the day of treatment, which is usually every three months.

"The immediate objective is to get patients to live longer and ultimately, a cure," Dr. Carr says. "Right now the choices are surgery and or transplant. Ideally, if the radioembolization trial is successful, many of these patients would have their liver tumors shrunken to the point where surgery is possible. Some may be able to have a transplant. It would be a significant contribution to the field if we could downstage the tumors so we could do more transplants, which is the only cure."

Source: Thomas Jefferson University

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