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NEWS

RSNA Press Release

Chemoembolization Helping Patients with Liver Cancer Live Longer

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At A Glance

- Patients with liver cancer are living up to three years longer with chemoembolization.
- Embolization cuts off oxygen supply to tumors and traps the chemotherapy drugs.
- Patients usually leave the hospital within 24 to 36 hours.

NEW YORK - Chemoembolization, a minimally invasive procedure that delivers chemotherapy directly to a tumor and cuts off its blood supply, is helping people with liver cancer survive beyond the six-month average with other treatments.

"We now have proof that patients live up to three years longer with chemoembolization and, more importantly, with a sustained quality of life," said Jeff Geschwind, M.D., section chief of interventional radiology and associate professor of radiology, surgery and oncology at The Johns Hopkins Hospital in Baltimore.

Dr. Geschwind discussed chemoembolization today at a Radiological Society of North America (RSNA) media briefing on image-guided therapies.

Primary liver cancer, or hepatoma, is one of the most lethal cancers in the world. About 14,400 people will die of liver cancer this year in the United States and an estimated 17,300 new cases of primary liver cancer will be diagnosed, according to the American Cancer Society.

The best options for treatment are surgical removal of the cancerous tumor or a liver transplant, but only 10 to 15 percent of patients are eligible for these kinds of treatments, Dr. Geschwind said. Chemotherapy alone has not been effective in treating liver cancer.

"Chemoembolization is the treatment of choice for widespread or diffuse tumors, as well as for tumors in multiple locations that cannot be surgically removed," Dr. Geschwind said.

During the procedure, an interventional radiologist directs a catheter into an artery in the groin and threads it to the artery supplying blood to the liver tumor. Contrast material is injected and x-rays are taken of the tiny, threadlike vessels. The radiologist then injects a high dose of chemotherapy agents mixed with an oil-like medium. The oil droplets transport the chemotherapy drugs to the tumor.

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An embolizing material then is delivered to close or restrict the blood vessels leading to the tumor, trapping the chemotherapy drugs within the tumor. Once the blood supply is cut off and the chemotherapy begins to work, the tissue breaks down and the tumor dies.

"The beauty of this technique is how precisely the oil droplets carry the drugs to the target," Dr. Geschwind said. "We also can minimize the toxicity to the patient because most of the drugs stay in the tumor. Some chemotherapy drugs have tremendous adverse side effects."

Most patients leave the hospital within 24 to 36 hours. Computed tomography (CT) or magnetic resonance (MR) imaging will be performed every three months to determine how much the tumor has shrunk and if any new tumors have appeared.

The benefits of the procedure last on average 10 to 14 months, and chemoembolization can be performed again if the cancer recurs. Risks from chemoembolization include possible liver failure, infection and the lodging of an embolus in the wrong place, depriving healthy tissue of blood. But these risks are much lower than those associated with surgery and liver transplant, Dr. Geschwind said.

He said researchers are now looking for ways to maximize the potency of chemoembolization through promising new drugs that target cancer cells. The procedure was first performed in the early 1980s, but up until recently was used mostly for pain relief. "What has changed in the last three or four years is that chemoembolization may have a role in curative, not just palliative, therapy," said Dr. Geschwind said. "But we have a lot more research to do."

The RSNA is an association of more than 33,000 radiologists, radiation oncologists and related scientists committed to promoting excellence through education and by fostering research, with the ultimate goal of improving patient care. The Society's headquarters are located at 820 Jorie Blvd., Oak Brook, Ill. 60523-2251. (http://www.rsna.org)

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