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Chemoembolization Is Safe and Should Be a First-Line Treatment for Inoperable Liver Cancer

Well Tolerated Nonsurgical Treatment Gives Patients More Time with Improved Quality of Life

NEW ORLEANS, Louisiana (April 4, 2005) – Research presented at the 30th Annual Scientific Meeting of the Society of Interventional Radiology shows liver cancer patients, two-thirds of whom have inoperable tumors, can benefit from chemoembolization, a nonsurgical treatment option that delivers a high-dose of chemotherapy to the tumor while decreasing blood flow through the arteries feeding the tumor. By reducing blood flow to the tumor (embolization) the embolic agent allows the chemotherapeutic drugs to remain localized to the tumor, decreasing harm to healthy tissues and allowing higher doses of the drugs to be used. Two studies presented today showed that chemoembolization does not induce liver toxicity, offers patients additional months, and is even safe for high-risk liver cancer patients who already have restricted blood flow in the liver due to portal vein thrombosis.

"The safety study shows that chemoembolization should be the standard first-line treatment for inoperable liver tumors. Patients have minimal procedural toxicity and chemoembolization is already proven to substantially increase survival," says lead investigator Jeff Geschwind, M.D., director of interventional radiology and associate professor at Johns Hopkins University School of Medicine, Baltimore, Md.

Surgical removal of liver tumors offers the best chance for a cure. Unfortunately, liver tumors are often inoperable because they may be too large, or have grown into major blood vessels or other vital structures. Sometimes, many small tumors are spread throughout the liver, making surgery too risky or impractical. Surgical removal is not possible for more than two-thirds of primary liver cancer patients and 90 percent of patients with metastatic (secondary) liver cancer. Additionally, due to the compromised liver function of liver cancer patients, physicians must be careful that cancer treatments do not cause additional liver damage and toxicity, which could lead to death.

"Chemoembolization offers patients a nonsurgical option that preserves healthy tissue, is well tolerated and has a short recovery time. It can be repeated as needed to control tumor growth or progression, thereby extending life expectancy in the majority of cases," says Geschwind.

About Chemoembolization (transarterial chemoembolization; TACE)

Using imaging for guidance, the interventional radiologist threads a tiny catheter up the femoral artery in the groin into the blood vessels supplying the liver tumor. The embolic agents keep the chemotherapy drug localized to the tumor, while depriving the tumor of blood needed for its growth. "As vascular experts, interventional radiologists are uniquely skilled in using the vascular system to deliver targeted treatments throughout the body. In treating cancer patients, we can attack the cancer tumor from inside the body without medicating or affecting other parts of the body," says Geschwind.

Chemoembolization usually involves a hospital stay of two to four days. Patients typically have lower than normal energy levels for about a month afterwards. Chemoembolization is a recognized palliative treatment for inoperable tumors.

About the Research

Abstract 149 – Although chemoembolization is a recognized palliative treatment for inoperable liver tumors, minimal comprehensive post-chemoembolization toxicity data is available. The purpose of this study was to evaluate the incidence of toxicity after treatment in liver cancers with chemoembolization using the National Cancer Institute Common Toxicity Criteria system grading of adverse events. Between 1998 and 2003, 149 patients underwent 436 chemoembolization procedures using a combination of cisplatin, doxorubincin, and mitomycin C, mixed in a carrier oily medium, followed by the embolic material. Fifty-eight percent of the tumors were primary hepatocellular carcinoma and 42 percent were metastatic tumors. Chemoembolization was found to be safe with no periprocedural mortality and minimal changes in liver enzymes and blood counts.

Abstract 152 – This study examined the safety and survival data of hepatocellular carcinoma (HCC) patients with portal vein thrombosis who underwent chemoembolization. The portal vein provides the major blood supply to the liver. Due to the already compromised blood supply to the liver, portal vein thrombosis has been considered a contraindication for chemoembolization for inoperable HCC. The fear is that further compromise of the blood supply might push the patient into premature liver failure.

Thirty-one patients underwent one or more chemoembolization treatments. All the patients tolerated the treatment without any immediate periprocedural complications. Patient recovery was similar to those without portal vein thrombosis, with most discharged home the following day. Approximately half of the patients had poor initial liver reserve prior to chemoembolization, and they had a median survival of 5 months, while the remainder showed a mean survival of 12 months. For comparison, the published survival rates of patients with inoperable HCC and portal vein thrombosis who receive no treatment is 3.7 months; and for those who receive systemic chemotherapy,

5.1 months. For patients with adequate hepatic reserve, chemoembolization appears to offer a survival advantage despite the presence of PVT. The study shows that chemoembolization is a safe treatment, even in high risk patients.

About Hepatocellular Carcinoma (HCC)

According to the American Cancer Society, about 14,000 cases of primary liver cancer are diagnosed each year and the most common form is HCC. This is a tumor that begins in the main cells of the liver (hepatocytes). HCC most frequently occurs in those who have a form of liver disease called cirrhosis. HCC is on the rise, due to the increased incidence of hepatitis B and C, which cause cirrhosis.

Cirrhosis occurs when the liver becomes diseased and develops scarring, usually over a period of years. The liver attempts to repair, or regenerate itself. This process can lead to the formation of tumors.

About Metastatic Liver Cancer

Patients with other types of cancer also are at risk for liver cancer. The liver serves as a way-station for cancer cells that circulate through the bloodstream. These cells may grow and form tumors in the liver. It is estimated that as many as 70 percent of all people with uncontrolled cancer will eventually develop secondary liver tumors, or metastases, tumors formed by primary cancer cells that have spread to a new site. One of the most common sources of metastatic liver cancer is from tumors of the colon and rectum. About 140,000 people in the United States are diagnosed with colon cancer each year, and roughly half of these patients will develop tumors in their liver at some time.

About Interventional Radiology

An estimated 5,000 people are attending the Society of Interventional Radiology's 30th Annual Scientific Meeting in New Orleans. Interventional radiologists are board-certified physicians who specialize in minimally invasive, targeted treatments performed using imaging for guidance to treat diseases nonsurgically through the blood vessels or through the skin. By combining diagnostic imaging expertise with advanced procedural skills, interventional radiologists perform minimally invasive treatments that have less risk, less pain, and less recovery time than open surgery. Interventional radiologists pioneered minimally invasive modern medicine with the invention of angioplasty and the catheterdelivered stent, which were first used to treat peripheral arterial disease. More information can be found at www.SIRweb.org.

Interviews and medical illustrations are available. Abstracts can be found at www.SIRmeeting.org in the program section and click on scientific sessions.

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