

# Intraarterial Radiation Cuts Radiation Hepatitis

BY KERRI WACHTER  
Senior Writer

CHICAGO — Radiation segmentectomy offers an alternative treatment for unresectable liver carcinoma that avoids the complications of traditional external beam therapy, according to a study presented at the annual meeting of the Radiological Society of North America.

Radiation segmentectomy involves infusing an internal point source of radia-

tion—in this case, yttrium-90 glass microspheres (MDS Nordion's TheraSpheres)—to the tumor site, said Robert J. Lewandowski, M.D., of William Beaumont Hospital, Royal Oak, Mich.

With radiation segmentectomy, "tumoricidal radiation doses approaching 5,000 Gy can be achieved in portions of the liver—i.e., in the tumor—with virtually no adverse clinical events," he said.

In contrast, tumoricidal radiation doses delivered by traditional external beam

therapy—via a collimated beam of radiation from an external source—typically range between 100 and 120 Gy. Radiation doses greater than 35 Gy given to normal parenchyma increase the risk of radiation hepatitis, which is characterized by alkaline phosphatase elevation, hepatomegaly, jaundice, and ascites. Patients typically require complex pretreatment planning.

In this study, 18 patients underwent Y<sup>90</sup> microsphere treatment for unresectable hepatoma (12 patients) or metastatic liver dis-

ease (6 patients). The microspheres were infused via the hepatic artery to the right lobe in 13 patients, the left lobe in 4 patients, and both lobes in 1 patient. All patients had good performance status and normal liver function at baseline. All patients received treatment on an outpatient basis.

The median absorbed tumor dose was 926 Gy, and the median dose to normal parenchyma was 14 Gy. Results from liver function tests remained within normal limits for all patients for a median follow-up of 60 days. No patient showed signs of radiation hepatitis during the follow-up period.

The success rate for the procedure is greater than 30%, principal investigator Riad Salem, M.D., told this newspaper. The procedure can also be repeated if necessary. Dr. Salem is the director of radiation oncology at Northwestern Memorial Hospital, Chicago. He is also a consultant for MDS Nordion. ■

## TACI Promising For Unresectable Hepatocellular Ca

ORLANDO, FLA. — Transcatheter arterial chemoinfusion without embolization is a safe and effective treatment in patients with unresectable stage I, II, or III hepatocellular carcinoma, and could serve as a safer alternative to transcatheter arterial chemoembolization, Mindie H. Nguyen, M.D., said at the annual meeting of the American College of Gastroenterology.

In a retrospective study of 165 patients who underwent transcatheter arterial chemoinfusion (TACI) between 1998 and 2002, the complete response rate among those with stage I, II, or III disease was about 50%, and the partial response and nonresponse rates were each about 25%. Among those with stage IV disease, complete response occurred in fewer than 15%, and partial response and nonresponse each occurred in fewer than 43%, said Dr. Nguyen of Stanford (Calif.) University.

Stage IV disease was the only predictor of nonresponse to TACI, she noted.

Patients all received chemoinfusion with cisplatin, doxorubicin, and lipiodol, and were observed overnight in the hospital. They were evaluated clinically at 2 weeks, and underwent radiologic evaluation at 3 months. Repeat TACI was conducted if residual or new tumors were detected; the average number of TACI procedures per patient was two.

The rate of serious complications among the TACI patients was 1.5%, with two patients experiencing hepatic failure. About 98% of patients required a hospital stay of less than 24 hours. Overall survival at 4 years was 66%.

—Sharon Worcester

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