

LIVER TRANSPLANT - NEW TECHNOLOGY FOR LIVER CANCERS

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There has been great publicity in the last year regarding liver transplantation as treatment for primary liver cancers.

Mickey Mantle died with widespread cancer while Larry Hagman is reportedly doing well after such treatment. The current New England Journal of Medicine just published a series by Italian researchers led by Vincenzo Mazzaferro et al from the National Cancer Institute of Italy entitled "Liver Transplantation for the treatment of small Hepatocellular Carcinomas in Patients with Cirrhosis."

The authors attempted to define the potential benefits of this radical form of therapy in patients with small tumors in order to better understand the role of treatment.

Between 1991 and 1994, nearly 300 patients with cancer of the liver were evaluated. Sixty of these had cirrhosis or a chronic disease of altering the structure and function of the liver. From these patients with cirrhosis, the study was based.

The diagnosis was confirmed by biopsy or by blood test for alpha-fetoprotein. The maximum tumor size to fit in this category as 5 centimeters. If there were multiple tumors, the patient could have not more than three nodules - none more than 3 centimeters in size. If invasion of blood vessels or lymph nodes were present, the patient was excluded.

Forty-eight patients fitted into the transplant criteria. One patient died prior to transplantation and 11 remain waiting for transplantation.

Twenty-six patients received chemotherapy prior to transplantation. Iodized oil was injected into the hepatic artery for chemoembolization in 26 patients. Fourteen patients received iodized oil plus doxorubicin - a form of chemotherapy. Twelve patients received iodized oil plus mitoxantrone - another chemotherapy. These chemotherapy treatments repeated approximately every two months with a range of 1 to 4 treatments per patient. The authors noted "Because liver transplantation was considered the keystone of treatment, it was performed whenever a compatible liver became available regardless of any scheduled anti-cancer therapy." No chemotherapy or radiation was given after transplantation unless the cancer had obviously recurred.

After the transplant, work-up included ultrasound tests, chest x-rays and blood tests including alpha-fetoprotein. CT scans were done twice a year and bone scans every eight months. Only three patients did not have hepatitis at the time of transplantation.

Treatment after transplantation included medicines to suppress the immune system including cyclosporine, azathioprine and corticosteroids.

An analysis for the 48 patients was undertaken with a range of follow up of 9 to 54 months and a average of 26 months.

Two patients required repeat transplantation because of viral infection. Three died in the surgical period with a total of 8 patients dying after transplantation. Recurrent cancer was responsible for two deaths. One patient was alive with metastases 26 months after transplantation and an additional patient had recurrent cancer in the needle track where the biopsy was performed. This nodule of cancer was removed and the patient remains disease-free.

The authors found a projected survival at four years of 75% with a recurrence-free survival of 83%. The authors noted that there were no differences in survival for patients with single or multiple tumors within the study. Some patients at surgery had tumors that were larger than anticipated. Those patients did worse than the patients who had a stage of cancer at surgery as detected by scanning techniques.

It should be noted that none of the tumors were thought to be resectable cancers - that, in fact, was a criteria of entrance into this study. The authors believed that "As long as the number of donors remains limited and until the results of randomized studies become available, liver transplantation should be proposed only for patients with cirrhosis who have small hepatocellular carcinomas that cannot be resected."

In an accompanying editorial by Williams and Rizzi from Kings College Hospital in London, it was noted that "Many factors influence the survival of patients with hepatocellular carcinoma, quite apart from the treatment, most important being the size of the tumor at time of diagnosis and the severity of the underlying cirrhosis." They continue "In the longer term, the prevention of hepatocellular carcinoma is surely the proper approach. The widespread use of hepatitis B vaccine should reduce the frequency of hepatitis B-related cirrhosis and hepatocellular carcinoma. With respect to patients with hepatitis C-related chronic active hepatitis and cirrhosis who are at high risk for hepatocellular carcinoma, there is an encouraging report that Interferon Alfa can reduce the frequency of hepatocellular carcinoma."

Thus, early results of transplantation for small liver cancers are encouraging. Other strategies including the prevention of cirrhosis are critical in preventing this difficult to treat disease.

Many people have expressed interest in our stereotactic body radiosurgery program. This is an approach where multiple focused beams of radiation hit the cancer in the liver or elsewhere. Our control rate – meaning cessation of growth, shrinkage or disappearance of the tumor in the treated field – is about 80% for the remainder of the patient's life. Our data has been presented at medical meetings worldwide – including most recently, New Zealand and Italy. For more information, call 212-CHOICES or e-mail to gil.lederman@rsny.org.