Medical Xpress

New transplantation criteria for liver cancer patients

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Researchers at the University of California, San Francisco propose that treatments used on liver cancers beyond the established Milan criteria for liver transplantation may be appropriate for all patients with hepatocellular carcinoma (HCC) who are listed for transplantation. Full details appear in the August issue of *Liver Transplantation*, a journal published by Wiley-Blackwell on behalf of the American Association for the Study of Liver Diseases (AASLD).

According to the American Cancer Society, about 90% of adult primary liver cancers are hepatocellular carcinomas. In 2009, an estimated 22,620 adults in the U.S. were diagnosed with primary liver cancer with 18,160 deaths expected to occur this year from HCC. Liver cancer is the sixth most common cause of cancer death among men, and ninth most common cause of cancer death among women.

Liver transplantation is an important treatment option for selected patients with non-resectable HCC. The Milan criteria provide guidelines to qualify HCC patients for liver transplantation and include one tumor smaller than 5 cm or up to 3 tumors smaller than 3 cm, no extrahepatic manifestations, and no vascular invasion. The Milan criteria were adopted because it identified a population with excellent outcome potential following transplantation—roughly equivalent to patients transplanted without HCC. However, HCC incidence is expected to increase and researchers are investigating whether the criteria for liver transplantation should be expanded to make even more patients eligible.

The San Francisco researchers suggest that the Milan and other criteria have proved inadequate. Team leader Dr. John Roberts explains, "It has not been shown there is any particular size of tumor that represents a 'no risk' of recurrence, at least among those tumors that can be detected radiologically. Further, the degree of risk is not the same for all patients within the Milan criteria."

Dr. Roberts points out that tumor size and number are only surrogate markers for underlying tumor biology and that using another marker—tumor behavior over time—allows the biology of the tumor to become apparent, dictating the most appropriate treatment strategy.

The UCSF team has taken a 'down staging' approach for patients with large tumors. This involves radiofrequency ablation, chemoembolization or both to control the tumor and then a requisite waiting period to determine tumor biology over time as the development of extra-hepatic or intra-hepatic spread is observed. This paradigm results in about 30% of the patients being ineligible for transplantation because of HCC progression, but those who make it to transplantation have an excellent outcome as compared to patients transplanted with tumors beyond the Milan criteria who are not treated. The median time between the first ablative procedure and transplantation was 8.2 months with a range of 3-25 months. This approach suggests that the test of time may be the surest method to select patients with HCC who are destined to have good transplant outcomes. Dr. Roberts argues that this approach, ablating the tumor and waiting, should be expanded to all patients listed for transplantation with hepatocellular carcinoma as the test of time can eliminate from transplantation patients whose disease is likely to recur after transplantation.

"Our experience with ablative treatment and then observation suggests that the ultimate outcomes of transplantation are not dependent on the primary tumor but more on time spent waiting for transplantation," Dr.

Roberts concluded. "It would seem logical that smaller and/or fewer tumors, though more unlikely to have spread, would also benefit from a period of time if the primary tumor can be controlled. The waiting period may be able to decrease the 10% recurrence rate seen in patients transplanted within Milan."

More information: "Hepatocellular Carcinoma: Ablate and Wait Versus Rapid Transplantation." John P. Roberts, Alan Venook, Robert Kerian, and Francis Yao. Liver Transplantation; Published Online: April 24, 2010 (DOI: 10.1002/lt.22103); Print Issue Date: August 2010.

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