After Liver Transplant, Women Have Lower Risk of Liver Cancer Recurrence

Women with a history of the malignancy also survive longer than men after receiving a liver transplant.

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After receiving a liver transplant, women with a history of hepatocellular carcinoma, the most common form of liver cancer, not only have a lower risk of recurrence of the cancer than their male counterparts, they also tend to survive longer, according to a new study.

Previous research has indicated that among people with cirrhosis, men have a two to four times higher risk of developing liver cancer. Among Asians with hepatitis B virus (HBV)—Asians have a disproportionately high rate of the virus—women age 50 and older have the same diagnosis rate of liver cancer as men age 40 and older.

Other research has found that after adjusting the data for diagnosis, symptoms and tumor-related factors, women with liver cancer have a 16% lower risk of death than their male counterparts.

Giuseppe Cullaro, MD, of the department of gastroenterology at the University of California, San Francisco, conducted a new study of outcomes among 12,711 people, including 2,909 (23%) women and 9,802 (77%) men, with a history of liver cancer who had received a liver transplant between January 2012 and January 2017. He presented findings from the study at The Liver Meeting, the Annual Meeting of the American Association for the Study of Liver Diseases, in Boston this month.

Among women and men, the median age was a respective 62 and 61 years old. Both groups had a median wait time for a liver transplant of seven months. A respective 61% and 68% of women and men were white, 22% and 13% had non-alcoholic steatohepatitis (NASH), and 17% and 19% had ascites, which is abdominal swelling due to fluid buildup.

The median alpha-fetoprotein, or AFP, a biomarker of liver cancer, was significantly higher among women compared with men, at 8 versus 7 nanograms per milliliter (below 10 is considered normal). The median total tumor size was also significantly different between women and men, at 3.2 centimeters versus 3.8 cm.

During a median follow-up of 2.0 years, 115 women (4.0%) and 526 men (5.4%) experienced

recurrence of their liver cancer. Among these individuals, the median time between their liver transplant and the recurrence of their cancer was 1.1 years for both men and women.

A total of 415 (14%) of the women and 1,531 (16%) of the men died during follow-up.

After adjusting the data to account for various differences between the cohort members, the researchers found that factors associated with recurrence of liver cancer included female sex (27% lower risk of cancer recurrence), NASH (42% lower risk), AFP level (1.05-fold increased risk per each additional 10 nanograms/ml) and larger tumor size (1.09-fold increased risk).

Invasion of liver cancer cells into the circulatory system, compared with a lack of it, was associated with a 2.3-fold increased likelihood of liver cancer recurrence for microvascular invasion (invasion mostly in small blood vessels that is observable only via microscopic observation) and a 3.03-fold increased likelihood of recurrence for macrovascular invasion (easily observed invasions, mostly in large to medium blood vessels).

The study authors concluded that their data justify future efforts to study the drivers of liver cancer recurrence following a liver transplant in women. In particular, investigators should assess physiological factors such as hormones as well as demographic factors such as personal behaviors that may drive the sex-based variation in liver cancer recurrence among those who have had a liver transplant.

To read the conference abstract, click here.
