

# Liver transplant recipients almost 3 times more likely to develop cancer

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Cancer incidence is higher among liver transplant recipients in Finland compared to the general population, according to a new study in the October issue of *Liver Transplantation*.

Transplantation, and subsequent immunosuppression which keeps rejection at bay, have long been associated with increased cancer risk. Several studies have examined the issue, but few have used a control population for comparison, and many rely on limited data. More studies are needed to reliably reveal the cancer risk pattern after transplantation, so doctors can optimize immunosuppression, cancer surveillance and risk management.

Researchers, led by Helena Isoniemi of Finland, sought to describe the cancer risk pattern in Finnish liver transplant patients, hypothesizing that the incidence of specific types of cancer would be higher among the recipients. They included all liver transplant patients from Helsinki University Central Hospital transplanted between 1982 and 2005. Using the Finnish Population Register and the national Cancer Registry, they were able to follow-up on each patient beginning at the date of transplant through the end of 2005.

Among the 540 liver transplant recipients, they found a total of 39 post-transplant de novo cancers in 36 patients. The overall standardized incidence ratio (SIR) compared to the general population was 2.59. Non-Hodgkin lymphoma, non-melanoma skin cancer and basal cell carcinoma had significantly elevated SIRs.

"The most common cancer types in our cohort were lymphoma and skin cancer," the authors report. "Non-Hodgkin lymphoma, which included four cases of post-transplant lymphoproliferative disorder, occurred more frequently in males, in patients transplanted at a younger age and soon after transplantation." By contrast, non-melanoma skin cancer was more common among older patients and those who had antibody induction therapy. Interestingly, the authors found lower cancer incidence among patients with history of acute rejections, correlating most strongly with lymphomas.

"Based on our data, one out of six liver transplant patients is estimated to develop some form of cancer by 20 years after transplantation." The authors report. "This study points out the importance of cancer surveillance after liver transplantation."

An accompanying editorial by Ashokkumar Jain of the University of Rochester et. al. reviews the Aberg et al findings alongside the rest of the literature, looking closely at patient age and duration of follow-up. Aberg and colleagues "show that the cumulative incidence of de novo cancers increased at 1, 5, 10 and 20 years of follow up from 3 percent, 5 percent, 13 percent and 16 percent respectively," Jain writes.

He also pointed out that other reports have noted a significantly increased risk of de novo oropharyngeal and lung cancers amongst liver transplant patients that smoke, which is a potentially preventable condition.

Throughout the literature, Jain and his coauthors found wide variation in the reported incidence of post transplant cancers, partly related to the length of follow up and partly related to the inclusion or exclusion of lymphoid lesions.

"The overall rate of de novo solid tumors increased with age at the time

of transplant and the length of follow up; while the rate of post-transplant lympho-proliferative disorders decreased with age at the liver transplant, with a higher incidence in the first few years," they conclude.

Source: Wiley

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