

Current and former smokers at risk for recurrent hepatitis post-liver transplantation

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Transplant recipients who smoke or have smoked increase their risk of viral hepatitis reinfection following liver transplantation according to new research available in the July issue of *Liver Transplantation*, a journal published by Wiley on behalf of American Association for the Study of Liver Diseases. Findings suggest that tobacco in cigarettes may adversely affect immune system response in patients transplanted for viral hepatitis.

According to the [Centers for Disease Control and Prevention](#) (CDC), [tobacco use](#) causes more than five million deaths per year worldwide, with estimates suggesting that annual [mortality rates](#) could climb to more than eight million by 2030. Previous research reports that nearly 34% of liver transplant recipients are active or former tobacco users. Moreover, medical evidence has shown that smoking increased biliary and vascular complications in the short-term, and elevated risk of all-cause, cardiovascular and sepsis-related mortality in the long-term among those receiving livers.

"Organs available for transplantation are scarce, with livers particularly in short supply," explains Dr. Mamatha Bhat from McGill University in Canada. "Transplant centers need to take an active role in identifying and minimizing risks to the success of liver transplantation." In the present study, researchers assessed the impact of smoking on incidence of complications, such as recurrent [viral hepatitis](#), following liver transplantation.

Analysis of demographic characteristics and post-transplantation complications was performed on data from primary liver transplant recipients over a 14-year period. Using data from the McGill University Health Centre (MUHC) Liver Transplant database, the team identified 444 patients who received [liver transplants](#) between 1990 and 2004, of which 63 were repeat transplants. The mean age of liver recipients was 55 years and 66% were male with a mean [body mass index](#) (BMI) of 27.

Results show that 23% of transplant recipients were active or ex-smokers and 78% were non-smokers. Of those who ever smoked, 78% were male and 88% were Caucasian. The cause of liver disease was likely to be alcohol related in 29% of smokers or ex-smokers compared to 16% non-smokers. Researchers estimated the median survival time for smokers following transplantation was just over 13 years.

Further analysis shows that the recurrent viral hepatitis-free survival time was less than one year for smokers and close to five years for non-smokers. The team found that patient survival, and time to biliary complications, first rejection and depression post-transplantation was not linked to smoking status. However, recurrent viral hepatitis-free survival was strongly associated with smoking.

"Our findings suggest that recurrence of viral hepatitis may be more frequent among liver transplant recipients who are active or former smokers," concludes Dr. Bhat. "Encouraging preoperative smoking cessation may be beneficial in improving patient outcomes following transplantation." The authors stress that their findings do not suggest the denial of [liver transplantation](#), but that transplant specialists be more vigilant in monitoring for complications in those candidates who continue to smoke. They call for validation of their results in larger studies that examine the effects of smoking and other potential modifiable risks.

More information: "Smoking Increases Recurrent Viral Hepatitis After Liver Transplantation." Mamatha Bhat, Marc Deschenes, Xianming Tan, Myriam Martel, Venkataramana Bhat, Philip Wong, Peter Metrakos, Peter Ghali. *Liver Transplantation*; Published Online: March 30, 2012 ([DOI: 10.1002/lt.23444](https://doi.org/10.1002/lt.23444)) Print Issue Date: July 2012.

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