Cardiovascular disease (CVD) is one of the leading causes of postorthotopic liver transplantation (LT) deaths despite a multifaceted liver transplant evaluation process aimed at excluding candidates at a high risk for poor outcomes. Hence the medical management of CVD and its risk factors in LT candidates is potentially crucial given the anticipated continued increase in LT for patients with non-alcoholic fatty liver disease (NAFLD) for whom CVD risk factors are important causes of morbidity and mortality.

As the age of LT candidates and the proportion of wait-list registrants and recipients with cirrhosis related to NAFLD are increasing, careful CVD assessment becomes imperative. About one in three patients with decompensated cirrhosis undergoing liver transplant evaluation have coronary artery disease (CAD). Although statin and aspirin are frequently used for prevention and treatment of CAD, the current literature is limited on the utilization of aspirin or statin to manage CAD in patients with decompensated cirrhosis.

Aspirin, a nonsteroidal anti-inflammatory and an anti-platelet drug, is generally avoided in patients with cirrhosis because of perceived risk factors of renal failure and gastrointestinal bleeding. Physicians are particularly reluctant to administer aspirin to patients whose liver disease complications manifest in coagulation abnormalities and thrombocytopenia because of fears of exacerbating hemorrhagic risks.

Abbreviations: CAD, coronary artery disease; CVD, cardiovascular disease; LT, liver transplantation; NAFLD, nonalcoholic fatty liver disease.

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Statins have long served as lipid-lowering agents for cardiovascular protection. The potential of statin hepatotoxicity has deterred primary care providers from using statin in patients with cirrhosis despite a low incidence of statin-induced liver injury. In light of the current literature, statins attenuate drivers of the progression of chronic liver disease such as fibrogenesis and portal hypertension. Existing data from several large observational studies investigating compensated cirrhosis and chronic liver disease support statin safety and its ameliorating mechanisms in decreasing the risks for cirrhosis decompensation, hepatocellular carcinoma, and mortality. The pleiotropic effects of statin on patients with cirrhosis are presumably products of its antioxidant actions, anti-inflammatory properties, and improvement of endothelial dysfunction. However, the effects of aspirin and statin in decompensated cirrhosis remain poorly characterized. Patel et al. endeavor to address this gap. In a retrospective cohort study published in Liver Transplantation, Patel and his team deduce that statin and aspirin therapy are safe in decompensated cirrhosis. Patel et al. also report an underutilization of statins (23%) and aspirin (36%) in the 84 LT candidates with documented CAD. Interestingly, aspirin and statin use in patients with decompensated cirrhosis increased based on the severity of CAD. After diagnosis of CAD, 41% of patients with obstructive CAD and 65% of patients with multivessel CAD were placed on statins. Comparably, among patients with cirrhosis with obstructive CAD or multivessel disease, 64% and 77% were prescribed aspirin. The study’s findings suggest that statin or aspirin may not be contraindicated in all cases when the clinical relevance of CAD-associated benefits outweigh drug-related adverse event risks. This highlights the likely existence of a strong selection bias for patients with cirrhosis with a high propensity to be prescribed statin and/or aspirin in a retrospectively designed study. Thus, it is prudent to further assess the safety of statin and aspirin in patients with decompensated cirrhosis directly in multicenter, prospective, randomized, controlled trials to account for confounding by indication. One of the major limitations of this retrospective study is that it is not powered to evaluate posttransplant statin and aspirin therapy benefits or detriments. Moreover, neither the medication doses nor statin formulations are reported. This is not surprising given the study’s small sample size. Caution should be exercised when interpreting the study’s safety statement because statin and aspirin pharmacokinetics and metabolism may be impaired in patients with advanced decompensated chronic liver disease. Consequently, the impact of statin and aspirin use on patients with decompensated cirrhosis cannot be elucidated based on this study solely but highlights the importance of further research into this topic.

Overall, the work published by Patel et al. sheds light on the need to optimize an integrated medical management approach to CAD in LT candidates. It is therefore of importance to understand and validate the safety of statin and aspirin therapy in all patients with decompensated cirrhosis through mixed-methods research approaches to fully account for confounding variables.

**REFERENCES**