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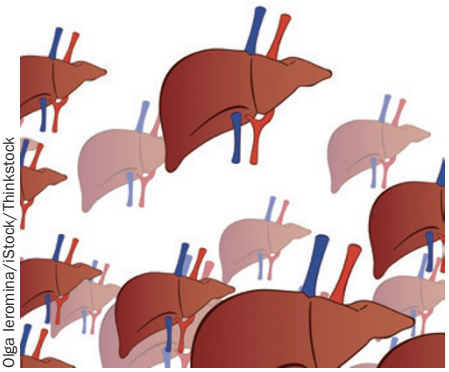
LIVER TRANSPLANTATION

Macrosteatosis and microsteatosis respond differently to intermittent hepatic inflow occlusion

New findings suggest that liver transplant donors who have macrosteatosis are less tolerant of hepatic ischaemia–reperfusion injury (IRI) associated with intermittent hepatic inflow occlusion (IHIO) than donors who have microsteatosis.

Previous work has demonstrated that IHIO is a safe and effective method to reduce blood loss in living donor hepatectomy. However, whether this technique is safe in donors with liver steatosis—either macrosteatosis or microsteatosis—is unclear. As a result, Sangbin Han and colleagues compared the tolerance to hepatic IRI in donors with macrosteatosis and/or microsteatosis.



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The study included 144 donors who underwent a right hepatectomy. Participants had macrosteatosis, microsteatosis, a combination of both, or no steatosis. The donors were divided into two groups for comparison; non-macrosteatosis ($n = 68$) versus macrosteatosis ($n = 76$) and non-microsteatosis ($n = 51$) versus microsteatosis ($n = 93$). The researchers used the coefficient of the regression line between the cumulative IHIO time and the peak concentrations of aspartate aminotransferase and alanine aminotransferase after surgery as a surrogate marker for tolerance to hepatic IRI.

The coefficient was significantly greater in the macrosteatosis group compared with the non-macrosteatosis group. However, the coefficient was comparable between donors with or without microsteatosis. In the subgroup of patients who underwent >30 min of IHIO, aminotransferase levels were higher in donors with macrosteatosis than in those with microsteatosis, and biliary complications were increased in donors with macrosteatosis.

"Microsteatosis has a limited impact on the tolerance of hepatic IRI, whereas macrosteatosis significantly impaired the liver tolerance," conclude Han and co-workers. The team hope their findings will help expand the donor pool and improve outcomes for donors and recipients.

Claire Greenhill

Original article Han, S. *et al.* Comparison of the tolerance of hepatic ischemia reperfusion injury in living donors: macrosteatosis versus microsteatosis. *Liver Transplant.* doi:10.1002/lt.23878