

# Safety limitations of fatty liver transplantation can be extended to 40%: Experience of a single centre in China

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## Abstract

**Background & Aims:** Liver transplantation is the only solution for terminal liver disease. This study aims to determine the association between severity of liver graft steatosis, as well as other risk factors, and poor prognosis of liver transplantation.

**Methods:** The degree of steatosis was analysed in 563 consecutive liver transplantation and classified by histological examination as M0 (0%), M1 (<30%), M2-1 (30%-39%), M2-2 (40%-49%), M2-3 (50%-59%) or M3 (≥60%). Recipients were analysed for in-hospital infection, 1-month mortality or graft loss, primary non-function (PNF), biliary complications, acute graft rejection, graft and patient survival.

**Results:** Compared with M0 livers, M1 and M2-1 livers had no negative impacts on prognosis of liver transplantation. ≥40% steatotic livers significantly increased the prevalence of 1-month mortality and PNF, but diminished graft and patient survival time.

**Conclusions:** The safety limitations of fatty liver transplantation can be extended to 40%.

## KEYWORDS

non-alcoholic fatty liver disease, primary non-function, prognosis, steatosis

**Abbreviations:** 95% CI, 95% confidence interval; ALF, acute liver failure; ALT, alanine aminotransferase; AST, aspartate aminotransferase; BMI, body mass index; ChE, cholinesterase; CIT, cold ischaemic time; DBD, donation after brain-dead; DCD, after donation after cardiac death; H&E, haematoxylin and eosin; HR, hazard ratio; IVIG, intravenous immunoglobulin; LOS, total length of hospital stay; LTx, liver transplantation; MELD, model of end-stage liver diseases; NAFLD, non-alcoholic fatty liver disease; OR, odds ratio; OT, operative time; PNF, primary non-function; TB, total bilirubin; WIT, warm ischaemic time.

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## 1 | INTRODUCTION

Liver transplantation (LTx) is currently the only acknowledged solution for the terminal liver diseases. However, the availability of donor organs does not meet the tremendous growth in demand for grafts and the increasing mortality rate among patients on the waiting list. This disparity has triggered the utilization of so-called extended criteria