

TRANSPLANTATION

Increased recipient BMI is associated with adverse outcomes after kidney transplantation

The number of patients who are overweight or obese at the time of kidney transplantation has increased. However, the effect of increased BMI on transplantation outcomes remains unclear. In a new study published in *Transplantation*, S. Joseph Kim and colleagues report that increased recipient BMI at the time of kidney transplantation is an independent risk factor for adverse outcomes, including biopsy-proven acute rejection (BPAR).

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To assess the impact of increased recipient BMI on short-term and long-term outcomes after renal transplantation, Kim and colleagues carried out an observational cohort study of

1,151 patients who received a donor kidney at a single centre between 1 January 2000 and 31 December 2010. At the time of transplantation, the BMIs of these patients ranged from 15.6 kg/m² to 54.9 kg/m² and a quarter of patients had a BMI >29.4 kg/m². In their adjusted multivariate analysis, the researchers found a significant association between recipient BMI 30–34.9 kg/m² and increased risk of delayed graft function (odds ratio [OR] 1.92), as well as stronger and more significant associations between a recipient BMI ≥35 kg/m² and increased risks of delayed graft function (OR 4.49), BPAR (hazard ratio [HR] 2.43), all-cause graft failure (HR 1.97), and death-censored graft failure (HR 2.43). However, the risk of death with graft function was not significantly increased in patients with BMI ≥30 kg/m² at the time of transplantation.

“Our study confirms previous findings of associations between increased BMI and increased risks of delayed graft

function, acute rejection, total graft failure, and death-censored graft failure,” concludes Kim. “Importantly, appropriate adjustment for acute rejection as a time-dependent covariate significantly attenuated the association between increased BMI and graft failure, suggesting that the increased risk of graft loss in obese patients might be at least partly mediated by acute rejection.”

Next the researchers plan to investigate the effects of changes in BMI after kidney transplantation on long-term outcomes. “We hope that our research will stimulate investigators to examine the potential role of obesity in heightening the immune response to an allograft,” says Kim.

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Original article Curran, S. P. *et al.* Increased recipient body mass index is associated with acute rejection and other adverse outcomes after kidney transplantation. *Transplantation* doi:10.1097/TP.0b013e3182a688a4