

21 - Title: The Use of Bariatric Surgery as a Bridge for Kidney Transplantation

Author(s): Alisa Khomutova MD, Brandon Pena MD, Jie Yang PhD, Xiaoyue Zhang MS, Adam Kressel MD, Aurora Pryor MD, Edmund Lee MD, Konstantinos Spaniolas MD

Faculty Mentor(s): Konstantinos Spaniolas MD, Adam Kressel MD

Background: Obesity is increasingly prevalent among individuals with end-stage renal disease, as well as the leading reason for inactivation on kidney transplant waitlists, complicating kidney transplantation due to adverse post-transplant outcomes. Bariatric surgery shows promise in improving eligibility and outcomes for candidates with obesity. This study aims to evaluate bariatric surgery as a potential bridge to kidney transplantation.

Methods/Research Design. We examined 26,704 patients with obesity and end-stage renal failure from a state-wide database. Patients who underwent bariatric surgery were compared with those who did not. The time to kidney transplant was monitored from the initial diagnosis. Chi-square and Wilcoxon rank sum tests were used to compare categorical and continuous variables between surgical and non-surgical groups. The cumulative incidence of kidney transplantation was estimated with death as a competing risk, and Fine-Gray models analyzed the association between variables and kidney transplantation incidence. Significant factors in univariate analysis were included in a multivariable model, with statistical analysis performed using SAS 9.4

Results: There were 24,723 patients, 233 in the bariatric surgery group and 24,490 in the non-surgical group. 22.75% of the surgical group and 4.81% of the non-surgical group ultimately received kidney transplants. Patients who underwent bariatric surgery had a significantly higher rate of kidney transplantation (4.22 vs. 1.64 per 100 patient-years). Multivariable analysis identified bariatric surgery (HR 2.00, 95% CI:1.51 - 2.66, P<0.001) as a key factor, alongside age, male gender, race/ethnicity, insurance type, and various comorbidities.

Conclusion (or Preliminary Conclusion, as applicable for a project in progress): Patients with obesity and end-stage renal disease who underwent bariatric surgery experienced a significantly higher rate of subsequent kidney transplant. This suggests the utility of bariatric surgery as a bridge to kidney transplantation. Additionally, patients experience fewer post-transplant complications and 1-year post-transplant mortality rate