

## Bariatric surgery as a precursor to kidney transplantation in patients with chronic kidney disease

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### Introduction

Kidney transplantation is associated with a survival benefit and improvement in quality of life compared to those patients treated on dialysis. Access to kidney transplantation can be reduced for patients with higher degrees of obesity for a variety of reasons; however, contemporary outcomes are not different for obese and non-obese transplant recipients. Bariatric surgery has been used as a means to overcome size based barriers to kidney transplantation for those with chronic kidney disease (CKD). This exploratory analysis aimed to describe the impact of bariatric surgery on time to, and kidney transplant status of, a cohort of patients with CKD pursuing bariatric surgery as a precursor to kidney transplantation.

### Methods

Retrospective review of clinical records of 81 consecutive patients with CKD who underwent bariatric surgery at our institution between March 2007 and October 2018. Data collected included: reason for surgery, anthropometric changes, kidney transplant status, and waiting times.

### Results

36 (44%) patients were identified who underwent bariatric surgery with the intention to improve eligibility for kidney transplant waitlisting. 56% (n=20) were female and the mean (SD) age was 50.2 (6.6) years; mean (SD) pre-operative body mass index (BMI) 42.7 (5.2) kg/m<sup>2</sup>. 97% of patients (n=35) underwent laparoscopic sleeve gastrectomy (LSG); 1 (3%) had a laparoscopic adjustable gastric band inserted. Mean (SD) time from referral to bariatric surgery was 15.9 (8.3) months. Follow-up time post bariatric surgery ranged from 3 months to 11.3 years (mean (SD) 3.9 (3.3) years). 16 patients (44%) proceeded to kidney transplantation. Of the remaining 20 patients: 4 (11%) are waitlisted for transplantation, 4 (11%) died (including 1 post-operative death following LSG) and 12 patients remain unlisted (3 (8%) due to comorbidities and 9 (25%) secondary to weight - 7 of these 9 have undergone surgery within the preceding year and are not yet at maximal weight loss). Of those transplanted, mean (SD) BMI at the time of transplantation was 32.2 (4.1) kg/m<sup>2</sup> representing a mean (SD) decrease in BMI of 8.6 (4.2) kg/m<sup>2</sup> and mean (SD) total weight loss of 22.3 (9.1) %. The mean (SD) time from bariatric surgery to kidney transplantation was 2.5 (1.4) years.

### Conclusions

Our findings demonstrate that access to kidney transplantation is a common motivation for patients with CKD to pursue bariatric surgery. Whilst bariatric surgery can facilitate significant weight loss, our data show that access to kidney transplantation is not guaranteed with 44% of patients remaining unlisted at the time of review. Further, pursuing weight loss through bariatric surgery prior to transplantation is associated with wait times, which may increase the time spent on dialysis for some, and is not without risk.