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Pushing the envelope for obese kidney donor candidates

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Obesity has become a landmark issue in the field of transplantation. In 2013, kidney donors with a body mass index (BMI) greater than thirty represented 25% of all living kidney donors in the United States. This stands in stark contrast to the 1970's, when 8% of donors had a BMI above thirty(1). Advances in technology and metabolic screening have allowed us to stretch the acceptable limit for BMI while minimizing risk, but we have yet to fully understand and optimize how obese donors can be best managed.

In this issue of *Transplant International*, Nguyen et al. consider the safety of laparoscopic kidney donors with a history of bariatric surgery(2). After compiling laparoscopic donors from 2 academic medical centers, they reviewed 22 patients who had undergone bariatric surgery prior to donation. Of these, over 80% of them had a BMI > 40 and would not have been eligible for donation prior to their bariatric surgery. Nearly all of these patients lost weight to bring their BMI less than 35. As an adjunct to their findings, they also compared the results to a cohort of unmatched obese patients who underwent laparoscopic donor nephrectomy. Although underpowered, they had similar outcomes following donation, suggesting that a history of bariatric surgery does not portend higher short term risk.

Over the past 10 years, there has been a dramatic shift in preference for sleeve gastrectomy over Roux-n-Y gastric bypass(3). In this manuscript, only six of the twenty-two patients underwent sleeve gastrectomy. This is important, as the lower risk of complications and equivalent efficacy makes it likely that sleeve gastrectomy will continue to grow in popularity. For patients with chronic kidney disease, Roux-n-Y gastric bypass has a particularly sour reputation. The risk of nephrocalcinosis likely limited the use and prevented its widespread adoption. For kidney donors (and recipients), sleeve gastrectomy offers a lower risk of overall complications and does not cause drastic alterations in electrolyte and mineral imbalances, a clear advantage in patients with who would benefit from renal preservation. Finally, this paper suggests that laparoscopic donor nephrectomy is safe after bariatric surgery of any kind, a finding which will likely become even more true with the expansion of sleeve gastrectomy.

Perhaps the most important consideration of sleeve gastrectomy in living kidney donors is the reduction of metabolic associated comorbidity such as hypertension and diabetes. In modern analyses, the resolution of these comorbidities top 50-60% at 8 years post bariatric surgery(4). It is thought that many of the donors which progress to end-stage kidney disease are the result of mismanagement medical comorbidity, such as new onset diabetes and

hypertension. It is for this reason that lowering the risk of these renally deleterious comorbidities would serve as a strong nudge for consideration.

This article is a great starting point to a dialogue which considers the role of bariatric surgery in living kidney donors. While a history of bariatric surgery is a solid first step, thoughtful consideration for planned bariatric surgery prior to donation could be the next step. Or by taking the idea a small step further, concurrent donation with sleeve gastrectomy could change the paradigm for benefit during the donor operation. This topic warrants further investigation and could benefit from qualitative studies examining the motivations and frustrations for patients with obesity who wish to be kidney donors(5). Certainly, ethical considerations will require close scrutiny in these scenarios.

Living kidney donation has always been a difficult space for innovation and this is likely to continue. Until the late 1990's, donor nephrectomies were considered an exclusively open operation. The senior author of this manuscript, Dr. Ratner, took the brave step of learning and perfecting the laparoscopic operation. Despite this, the initial response was rather cautious. Why change a safe operation? The answer was simple, because it benefits the patient.

Additional improvements in laparoscopic donor nephrectomy will continue to require innovation and a bold eye. With over 25% of donors considered obese, the consideration for preoperative or concurrent bariatric surgery will be a critical issue moving forward. With proper informed consent and close scrutiny of ethical considerations, concurrent bariatric surgery could change the calculus of benefit during kidney donation. To keep pace with an epidemic, the transplant community will need to tackle the issue of obesity head on. Studies such as this are a great reminder that innovation can lead to huge gains for our most vulnerable patient population.

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