

# The transplant ureter: A topic of debate

Michael Di Lena, MD; Thomas McGregor, MD

Department of Urology, Queen's University, Kingston ON, Canada

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Placement of a ureteric stent has become an integral part of the ureteric anastomosis in renal transplantation. It is now considered the standard. Like much of medicine, however, there are pros and cons of this approach.

The main advantage for stent placement is a significantly lower risk of ureteric complications, namely decreased stricture rates.<sup>1</sup> Ureteric strictures are a dreaded complication that can be challenging to fix and can lead to demise of the allograft. It is encouraging to see that all Canadian transplant surgeons place intraoperative ureteric stents, as shown by the study performed by Reynolds et al.<sup>2</sup>

Stents, however, are not without downsides. Ureteric stents can create a lot of grief for the transplant recipient, with two well-described adverse effects being irritative lower urinary tract symptoms (LUTS) and urinary tract infections (UTI). Although the LUTS can be quite bothersome, the infections are of greater consequence, seeing as these patients are immunosuppressed and hence a simple UTI can become a more sinister infection, especially in a refluxing system.

To curtail this infection risk, surgeons can modify the stent dwell time or give prophylactic antibiotics at the time of stent removal. Both of these maneuvers were queried in the recent survey by Reynolds et al, and the results are quite variable.<sup>2</sup> One of the main reasons for the lack of consensus is the continued paucity of evidence in these areas.

As pointed out in this survey, the majority of transplant surgeons remove ureteric stents around 4–6 weeks postoperatively.<sup>2</sup> This is likely based on urological dogma, as this is a common amount of time stents are left in ureters for other urological procedures. However, literature is starting to emerge showing that earlier stent removal is feasible and can help avoid unwanted complications, namely UTIs.<sup>3</sup>

In the same thread of stent dwell time, it would be interesting to note the variability in timing of postoperative Foley catheter removal among Canadian transplant surgeons. It has been shown that early Foley catheter removal (within 48 hours) is associated with decreased incidence of UTIs

and earlier hospital discharge in patients undergoing renal transplantation.<sup>4</sup> Furthermore, removal of Foley catheters as early as postoperative day 1 has not been found to have an increase in urinary leak or perioperative complications.<sup>5</sup> Going forward, strategies aimed to quickly remove all foreign bodies from this population should be adopted.

Prophylactic antibiotics are another method used to prevent UTIs in the transplant patient. American Urological Association best practice guidelines would suggest that in the immunocompromised transplant patient population, all should receive prophylactic antibiotics in the setting of cystoscopic stent removal, with the preferred regimen being oral fluoroquinolone or trimethoprim/sulfamethoxazole (TMP-SMX).<sup>6</sup> In the current survey study by Reynolds et al,<sup>2</sup> only 64% of transplant surgeons are routinely prescribing prophylactic antibiotics at time of stent removal, with the majority (93.7%) prescribing either TMP-SMX or ciprofloxacin. Given current guidelines, this may represent an area in need of standardization. As noted by the authors, some of the study respondents may not be involved in stent removal and may not have accurate knowledge of this practice.

In this survey study, Reynolds et al found that 72% of transplant surgeons reported not routinely obtaining postoperative surveillance ultrasound (US).<sup>2</sup> We have found that these are often performed by the transplant nephrologists, many times without the knowledge of the transplant surgeons; hence, renal US post-stent removal likely occurs more often than indicated in this survey.

The method of ureteral anastomosis has become a highly debated topic in renal transplantation. In this survey study, there is a slight favour towards refluxing (56%) vs. non-refluxing (44%) anastomosis.<sup>2</sup> The “full-thickness” anastomosis is an increasingly popular technique that does not require detrusor closure resulting in a refluxing anastomosis. Studies have shown that this technique, compared to the Lich-Gregoir teaching, had no difference in overall complications.<sup>7</sup> Reynolds et al rightly calls into question the need for non-refluxing anastomosis.<sup>2</sup> This is especially true when you consider that a majority of anastomoses performed in an anti-reflux fashion demonstrate reflux postoperatively.<sup>8,9</sup> It is our opinion that the presence of a refluxing system becomes less significant if steps are taken to prevent UTI

and bacterial colonization in this patient population. What is more important than the type of anastomosis is surgical experience and comfort with the particular technique.

This is an important study and we applaud the work of Reynolds et al in exposing the variation in approaches towards operative and perioperative management of Canadian renal transplant patients. The fact that renal transplantation often involves a multidisciplinary approach highlights the need for an accepted standardized protocol when it comes to patient management in the perioperative period.

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**Correspondence:** Dr. Thomas McGregor, Department of Urology, Queen’s University, Kingston ON, Canada; [thomas.mcgregor@kingstonhsc.ca](mailto:thomas.mcgregor@kingstonhsc.ca)



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