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ABSTRACT

Background: There are over 100,000 adult patients awaiting renal transplantation in the United States, with less than 25% who undergo eventual transplantation [1]. This disparity has motivated providers to seek ways to increase the number of kidneys available for transplantation. Historically, the presence of kidney stones in a renal allograft was a relative contraindication for renal transplantation [2]. Ex-vivo ureteroscopy, or, "back-table ureteroscopy", is a technique which has been employed as a potential solution to increase the total number of available kidneys which were initially deemed ineligible [3,4].

Objective: To demonstrate our step by step technique for ex-vivo ureteroscopy and to demonstrate its safety and efficacy as a method of stone removal prior to transplantation.

Methods: Following procurement and back table preparation of the donor kidney by the transplant surgery team, the kidney was replaced in an ice bath for ex-vivo ureteroscopy. A combination of holmium laser lithotripsy and stone basketing were used to extract the stone. Following complete removal of the renal calculus, the renal allograft was reprepared and the renal transplantation was carried forth in the standard fashion by the transplant surgery team.

Results: The total operative time for the ex-vivo ureteroscopy was 70 min. No intra-operative complications were identified during ex-vivo ureteroscopy or during allograft transplantation. Six months following transplantation, the patients renal function remains normal.

Conclusions: Ex-Vivo ureteroscopy can be a safe and effective treatment for the management of renal stones prior to transplantation. This method can be used with existing resources to increase the number of donor kidneys available for transplantation each year.

The video related to this article can be found online at: doi:10.1016/j.urolvj.2022.100180.

CRediT authorship contribution statement

Marcus L. Jamil: Conceptualization, Investigation, Resources, Writing – review & editing, Visualization, Supervision. **Jack Vercnocke:** Writing – review & editing. **Patrick Etta:** Writing – review & editing. **Adhnan Mohamed:** Investigation, Resources, Writing – review & editing. **Mohit Butaney:** Writing – review & editing. **Mahdi Bazzi:** Investigation, Resources, Writing – review & editing. **Simon Zetuna:** Writing – review & editing. **Lauren Malinzak:** Investigation, Resources, Writing – review & editing. **David Leavitt:** Conceptualization, Investigation, Resources, Writing – review & editing, Visualization, Supervision.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

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