Author's response to reviews

Title: Extraperitoneal Urine Leak after Renal Transplantation: The Role of Radionuclide Imaging and the Value of Accompanying SPECT/CT - A Case Report

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Author's response to reviews: see over
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Dear Tim Shipley, PhD:


We have responded to all comments in the reviewers' critiques and, accordingly, the manuscript was revised as they recommended. Comments to reviewers and editor were listed below.

**Comments to referee #1**

1. Was the perfusion on ultrasound normal? I presume it was but it should be commented on. → It was normal and added in the text of the case report.

2. The last sentence of the introduction is missing a 'the'. → "the" was inserted before "importance" in the last sentence of the introduction.

3. The last paragraph of the case should read 'An emergency operation'. → "emergent" was changed to "emergency".

**Comments to referee #2**

1. In the introduction the authors must mention the algorithm of diagnosis of urinary leakage post kidney transplantation as this is not the usual to start with isotope renography or SPECT-CT. → An ultrasound examination of the kidney and urinary bladder which was negative was obtained before renal scintigraphy in this patient. This was mentioned in the text of the case report. However, the text below was added in the introduction and a new reference was appropriately cited.

   "It is often difficult to distinguish the signs and symptoms of urinary extravasation from those of rejection or obstructive uropathy. To aid in the early and definitive diagnosis, ultrasound scanning, isotope renal scanning, magnetic resonance urography, antegrade or retrograde urography, and/or cystography are performed."

2. In the material and methods the authors not explained why they started with isotope study after US in this case with urine leakage from the skin. → Urine penetration through the skin of the scrotum was caused by severe scrotal edema. In demonstrating urine leaks, renal scintigraphy and ultrasound (US) are the main non-invasive diagnostic tools. ref: Samhan M, Al-Mousawi H, Hayati M, Abdulhalim M, Nampoory MR. Urologic complications after renal transplantation. Transplant Proc 2005;37:3075–6.


Urine leak accumulations can be localized more accurately with the use of novel hybrid imaging systems such as single photon emission computed tomography/CT. ref: Gunatunga I, Facey P, Bartley L, Rees J, Singh S, Fielding P. Perinephric urinoma secondary to perforated UPJ obstruction diagnosed using Tc-99 m mercaptoacetyltriglycine (MAG3) SPECT/CT. Clin Nucl Med 2007;32:317–9.

3. Why ascending cystography not done to exclude leakage from urinary bladder. → Renal scintigraphy is the appropriate study to confirm or exclude rejection of graft or other posttransplant complication in the patients with impaired renal function who show normal findings on ultrasound. In this patient, antegrade cystography was not performed since a urine leak was first diagnosed with renal scintigraphy.

4. I think that trial of percutaneous nephrostomy with or without JJ fixation can be tried first and antegrade pyelography will reveal the site of leakage. → The primary physician chose to perform a non-invasive investigation first to clarify the cause of apparent renal dysfunction before specific surgical or invasive intervention.

5. What is the impact of the identification of the extension of urinoma on patient’s management. → Early and large leaks are usually managed by reanastomosis. Some leaks can be managed conservatively by placement of a drain in the urinoma and stenting of the ureter (performed percutaneously).

6. Non-contrast CT alone is enough to detect the extension of leakage. → A CT scan can also be used in the investigation of urine leaks. However, the use of iodinated contrast agents is very problematic in patients with renal transplantation, particularly with impaired renal function. Ref: Burgos FJ, Pascual J, Marcen R, García-Navas R, Gómez V, Ortuño J. The role of imaging techniques in renal transplantation. World J Urol 2004;22:399–404.

7. Why authors not used MRI to diagnose urinoma to avoid exposure to radiation. → The primary physician chose not to use MRI with contrast to avoid problems associated with MRI contrast agent in patients with renal failure.

8. I think that the statement in discussion that renography commonly used in diagnosis of urine leak is old. → Several recent references which were added demonstrate that renal scintigraphy is still a useful and viable option.
Minor essentials:
1. In the first line of abstract “the postoperative” to be changed to the early postoperative. → "early" was added.

2. Some of references are old. → References #9 and 11 were deleted. Several more recent references were added (#10-12).

3. Reformatted CT images of low quality. → The low dose CT (2-3A) usually used for SPECT/CT may be not diagnostic in quality, but it may be valuable for anatomic localization and attenuation correction in evaluation with SPECT imaging.

Editorial requests

1. Please include a 'Competing interests' section between the Conclusions and Authors' contributions. If there are none to declare, please write 'The authors declare that they have no competing interests'. → 'The authors declare that they have no competing interests' was inserted between Conclusions and Authors’ contributions.

2. Please include an Authors' contributions section before the Acknowledgements and Reference list. → An Authors' contributions section was inserted before Reference list.

3. For all articles that include information or clinical photographs relating to individual patients, written and signed consent from each patient to publish must also be mailed or faxed to the editorial staff. The manuscript should also include a statement to this effect in the Acknowledgements section, as follows: "Written consent for publication was obtained from the patient or their relative." → Written consent for publication was obtained from the patient and this was commented in the Acknowledgements section.

4. Please be sure to emphasize what this case report is adding to the existing literature. → This case report was not published in other existing literature.

Please contact corresponding author, Dr. Machac (212-241-7888), if there are any questions about these.

We would greatly appreciate comments, recommendations and suggestions you and two reviewers provided us. It was a great chance for us to review and broaden our knowledge.

Sincerely yours,

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