

## Peer Review File

Article Information: <https://dx.doi.org/10.21037/tau-22-792>

### Reviewer A

This is a very interesting case report and the authors have presented the details well.

If possible it would be important to mention: how did the authors identify the length of the stricture during reconstruction? Was it not possible to do a Boari flap repair which involves less morbidity for the patient? (Why did they opt for ileal segment)

Rare complication of Schistosomiasis worth reporting and publishing with TAU.

Clarifications about the reconstruction technique are needed

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We appreciate this reviewer's comments and critiques. For clarity, we have numbered the questions listed in their reply.

1. How did the authors identify the length of the stricture during reconstruction.
  - a. Concurrent retrograde and antegrade pyelography was performed prior to open reconstruction to determine stricture length and location (Figure 1). Stricture length was approximated based on x-ray calibration using a forceps with known length. This was clarified on Page 5, lines 8-9.
  
2. Was it not possible to do a Boari flap repair which involves less morbidity for the patient? (Why did they opt for ileal segment)
  - a. We agree with the reviewer that our choice of surgical technique deserved a more in-depth discussion. The following information was added to our manuscript (Page 5, Lines 11-21): "Given there were two separate strictures at different locations within the ureter of unclear etiology, we opted to perform ureterectomy with ileal interposition. The total length of the diseased segment was >3 cm, located proximal to the iliac vessels in the mid-ureter, which we deemed too proximal for reimplantation with psoas hitch or Boari flap. Augmentation techniques using buccal mucosal grafts were not an option as the distal stricture did not contain an identifiable lumen to augment. Ureteroureterostomy was considered, but given two sites of stricture, we were

concerned about the ability to obtain a tension free anastomosis. Additionally, given the unclear etiology of his stricture without prior history of stone disease, injury, or instrumentation- we had a moderately high suspicion of a progressive pathology which could potentially recur at another site within the ureter. All of these factors influenced our decision to proceed with ileal ureter interposition.”

## **Reviewer B**

Overall great case report for under-reported issue, and addresses need for more awareness.

Page 2 Line 4 and 22: not sure what a "fixed" urologic complication means - please clarify

Page 6 Line 18-20: do the authors recommend any particular surveillance strategy that they are doing? "Regular cystoscopy" is a bit too indecisive.

Page 7 Line 9: any thought given to doing a primary anastomosis proximally and reimplant/Boari mid/distally? Lots of non-bowel options these days, maybe warrants more discussion on this. I do understand the reasoning and multifocality of the stricture does make ileal interposition a good option.

Question in general: was there a renal scan to determine function of the kidney? The hydronephrosis doesn't seem that bad for a blind ending ureter, what if the function were minimal at that point?

In general, ureteral stricture from schistosomiasis may be an under-reported phenomenon and would recommend this for publication. Would emphasize need to discuss other treatment options aside from ileal interposition, as there are lots of other ureteral reconstruction options available these days.

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1. not sure what a "fixed" urologic complication means - please clarify
    - a. We agree, this wording was unclear and confusing. We have omitted the word “fixed” for clarity (Page 6, Line 19)
  
  2. Do the authors recommend any particular surveillance strategy that they are doing?

"Regular cystoscopy" is a bit too indecisive.

- a. As there are no known guidelines on cystoscopic surveillance for patients with schistosomiasis, we opted to perform surveillance cystoscopy on an annual basis after discussion of the risks and benefits with the patient (Page 7, Lines 6-7)
  
3. Any thought given to doing a primary anastomosis proximally and reimplant/Boari mid/distally? Lots of non-bowel options these days, maybe warrants more discussion on this. I do understand the reasoning and multifocality of the stricture does make ileal interposition a good option.
  - a. We have added discussion clarifying our choice in reconstructive technique (Page 5, Lines 11-21): "Given there were two separate strictures at different locations within the ureter of unclear etiology, we opted to perform ureterectomy with ileal interposition. The total length of the diseased segment was >3 cm, located proximal to the iliac vessels in the mid-ureter, which we deemed too proximal for reimplantation with psoas hitch or Boari flap. Augmentation techniques using buccal mucosal grafts were not an option as the distal stricture did not contain an identifiable lumen to augment. Ureteroureterostomy was considered, but given two sites of stricture, we were concerned about the ability to obtain a tension free anastomosis. Additionally, given the unclear etiology of his stricture without prior history of stone disease, injury, or instrumentation- we had a moderately high suspicion of a progressive pathology which could potentially recur at another site within the ureter. All of these factors influenced our decision to proceed with ileal ureter interposition."

The reviewer mentions U-U for the upper stricture with reimplantation/Boari flap distally, but this would also leave a fairly short transected ureter in two spots for the distal segment, which would be worrisome for blood supply issues.

4. Question in general: was there a renal scan to determine function of the kidney? The hydronephrosis doesn't seem that bad for a blind ending ureter, what if the function were minimal at that point?
  - a. The antegrade pyelogram we included in figure 2 did not demonstrate hydronephrosis due to the presence of a percutaneous nephrostomy tube. We did not include images of his initial CT scan in our manuscript, however his hydronephrosis was moderate. This reviewer is correct that we did not obtain a renal scan to look at the function of the kidney. Based on the CT demonstrating equal size of both kidneys- we made the assumption that his renal function was reasonably preserved. Given his young age,

even with diminished function, we would have made every effort to save his kidney instead of proceeding with nephrectomy.

## **Reviewer C**

well done for a very comprehensive and interesting case study.

i have some questions and suggestions

1. suggest to include a CT urogram of the initial diagnosis
  2. suggest to include post ileal interposition CT scan and / or contrast study
  3. any reasons or considerations as to why a ureteroureterostomy not done instead of ileal ureter?
- this is indeed a rare condition especially outside the Middle East / African continents. the writer has covered quite comprehensively and it is highly recommended to share with the community.

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1. suggest to include a CT urogram of the initial diagnosis
    - a. Although we did obtain a CT Urogram of the initial diagnosis, the patient had a delayed nephrogram and no excretion of contrast into the left collecting system after 12 minute delay, therefore the stricture is not clearly seen.
  2. suggest to include post ileal interposition CT scan and / or contrast study
    - a. We do not routinely obtain CT Urograms following ileal interposition. Our post-operative pathway is to obtain a cystogram with catheter removal one week postoperatively and and stent removal 4-5 weeks later. We have included an image (Figure 3) of our patient's post-operative cystogram- referenced on Page 6, Lines 5-6.
  3. any reasons or considerations as to why a ureteroureterostomy not done instead of ileal ureter?
    - a. We have added discussion clarifying our choice in reconstructive technique (Page 5, Lines 11-21): Given there were two separate strictures at different locations within the ureter of unclear etiology, we opted to perform ureterectomy with ileal interposition. The total length of the diseased segment was >3 cm, located proximal to the iliac vessels in the mid-ureter, which we deemed too proximal for reimplantation with psoas hitch or Boari flap. Augmentation techniques using buccal mucosal grafts were not an option as the distal stricture did not contain an identifiable lumen to augment.

Ureteroureterostomy was considered, but given two sites of stricture, we were concerned about the ability to obtain a tension free anastomosis. Additionally, given the unclear etiology of his stricture without prior history of stone disease, injury, or instrumentation- we had a moderately high suspicion of a progressive pathology which could potentially recur at another site within the ureter. All of these factors influenced our decision to proceed with ileal ureter interposition.