Peer Review File
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REVIEW COMMENTS

Reviewer A

Comment 1*:* When reviewing the studies of AUS after urethroplasty, I would report how soon after urethroplasty the AUS was implanted (Mean/Median), what the erosion rates were, and the FU time, or when the erosions occurred, if the data is available for each study presented. Parts of this are presented, but not all parts for each study.

Reply 1: In a study by Simonato et al (Ref. 21 in the manuscript), "all patients underwent perineal AUS placement (4.0-cm cuff), without using a transcorporal approach, at 7 months after urethroplasty." In 27 men (87%), AUS was replaced at median of 6.0 months (IQR: 4-7) after urethroplasty. In 25 patients with >3 months of follow-up after AUS replacement, urethral complications requiring AUS revision or removal occurred in 9 patients (36%) and included subcuff atrophy (3) and erosion (6) (Ref. 8 in manuscript).

This outcomes study confirms that urethral risk factors, including radiation history, prior AUS erosion, and a history of urethral stent placement, increase the risk of AUS explantation (up to 8.03%) in short-term follow-up. However, the study does not mention the time window between urethroplasty and the subsequent AUS implantation (Ref. 15 in manuscript).

Comment 2*:* Before discussing ref. 23, I would say something along the lines of "the published data suggests that anastomotic urethroplasties increase risk of erosion, however this may not be the case for augmented urethroplasties. In the one study that examined anterior urethroplasties with BMG…etc. The transition as it currently reads "However, another study…line 168" seems abrupt.

Reply 2*:* I agree with the reviewer and have included the suggested changes in the manuscript text and have highlighted them in yellow.

Comment 3*:* AUS erosions in setting of IPPs can be another topic altogether.

Reply 3*:* Agree completely and is not the scope of this review.

Comment 4*:* Tandem cuffs should likely be avoided altogether as they don't lead to better continence rates and have higher complicated rates. They essentially "burn" through larger anounts of urethra given the larger surface area.

Reply 4: Again, we agree completely with the reviewer! We also do not use and do not recommend double/tandem cuffs! Therefore, tandem/double cuffs should be avoided as they seem to compromise urethral vascularity even further leading to higher complication rates without any benefit on continence rates.

We have modified the manuscript text as advised by the reviewers and have added some relevant information.

Reviewer B

Comment 1. I think it's important to mention the increasing utilization of robotic surgery to manage posterior urethral stenosis and how in some cases avoids a perineal dissection entirely, making the future AUS less complicated.

Reply 1: increasing utilization of robot-assisted surgery to manage posterior urethral stenosis and the potential to avoid a perineal dissection entirely, eventually making the future AUS implantation less complication

Comment 2. I'm not sure there is any published literature on the topic, but anecdotally some may use a spacer around the urethra during urethroplasty to enable easier placement of future AUS, such as leaving the cuff sizer as an "implant" to save a space and avoid the need for transcorporal approach.

Reply 2: The concept/idea of leaving the cuff sizer as a spacer around the urethra during urethroplasty to enable easier placement of a future AUS cuff and thus avoid the need for transcorporal approach has not been published in peer review international literature to my knowledge. However, it seems to be a procedure worthwhile trying. We will definitely keep this in mind for complex cases in the near future.

Comment 3. I'm not sure there is any published literature on the topic, but anecdotally some may use a spacer around the urethra during urethroplasty to enable easier placement of future AUS, such as leaving the cuff sizer as an "implant" to save a space and avoid the need for transcorporal approach.

Reply 3: Endoluminal (endoscopic and urethral dilatation) can be attempted as 1st-line treatment for a non-obliterative vesico-urethral anastomosis stricture (VUAS) or radiation-induced bulbomembranous strictures (BMS). Recently, transurethral incision with transverse mucosal realignment for VUAS and BNC has been reported with a high success rate of 89% after 1 procedure and 100% after a second procedure without de novo urinary incontinence or major complications. This approach may avoid perineal surgery or other more invasive approaches. However, more studies and longer follow-up are needed to establish reproducibility. Ref. 48 in the manuscript.

Comment 4. I'm not sure there is any published literature on the topic, but anecdotally some may use a spacer around the urethra during urethroplasty to enable easier placement of future AUS, such as leaving the cuff sizer as an "implant" to save a space and avoid the need for transcorporal approach.

Reply 4: In a recent retrospective multicenter study, Angulo J. et al evaluated treatment options after surgical revision of adjustable transobturator male system (ATOMS) and the results of further implantation for incontinence. Ref. 49 in the manuscript.

Considerations about ProACT device for salvage cases are discussed and supported in Refs 50 and 51.

Comment 5. I'm not sure there is any published literature on the topic, but anecdotally some may use a spacer around the urethra during urethroplasty to enable easier placement of future AUS, such as leaving the cuff sizer as an "implant" to save a space and avoid the need for transcorporal approach.

Reply 5: The safety of clean intermittent catheterization (CIC) in men with an artificial urinary sphincter (AUS) at the bulbar urethra remains unclear. Ref. 52 in the manuscript.

***Reviewer B's Comments**:* The authors agreed that all the 5 comments/questions raised by Reviewer B could and should be addressed for improved clarification **by adding a short new section** to the manuscript. We hope the reviewers will agree as this addition seems to improve the quality of the information and data. We have modified the manuscript text as advised by the reviewers and have added some relevant information.