Peer Review File

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Reviewer A

Good developed systemic review of this very important part of GAS in transmen.

Reviewer B

This study aims to aggregate reports of urologic complications and outcomes in transgender men with respect to Metoidioplasty and Phalloplasty. A systemic literature search of MEDLINE, Web of Science, Cochrane Library, Europe PMC, OSF Preprints, and EMBASE database was conducted for studies relating to urethral-related complications in MaPGAS-UL with vaginectomy.

Overall an interesting review. Some comments

1.Page 2, line 64: What is "AS "refer to? Please describe
Reply 1: AS refers to "aesthetic satisfaction." This is a patient reported outcome found in a subset of the articles we reviewed but we did not intend to report as an outcome in our final manuscript due to inconsistent use
Changes in text 1- "80 % AS" was removed on line 64

2.Page 5, line 103: What is "MGAGS" ? Please check the grammar and spelling before submission.
Reply 2: error: meant to read MaPGAS-UL
Changes in text 2: Updated to "MaPGAS-UL" on like 103

3.This literature review is not comprehensive even though there is a strict exclusion and inclusion criteria. Two of the biggest series of Dr. Leriche from France and Dr. Stan Monstrey from Belgium are not included in this systemic review (Long-term outcome of forearm flee-flap phalloplasty in the treatment of transsexualism. BJU Int. 2008 May;101(10):1297-300). (Radial forearm phalloplasty: A review of 81 case. October 2005. European Journal of Plastic Surgery 28(3):206-212)
Figure 1: PRISMA diagram. How many studies were exactly included in qualitative synthesis 11 or 12(185-173)?

Reply 3: Both papers were reviewed and excluded due to mixed cohorts and uncertainty of urethral outcomes. The series by Dr. Leriche included mixed with/without penile implant outcomes as well as mixed with/without urethroplasty outcomes. In the series by Dr.

Monstrey all patients had urethral lengthening but a large subset also had a penile implant and the data reported did not clarify outcomes in those two cohorts.
11 Studies were included in the qualitative synthesis.
Changes in text 3: Clarified that we excluded "combined phalloplasty cohorts with and without implanted penile prosthesis" line 125

4. Where is the most location of fistula and stricture in rolled ALT and RFFF? proximal, distal anastomosis, fixed or pendant part? Is it the same location as in metoidioplasty?
Reply 4: This data was not reliably reported in the reviewed literature. We discussed this in the limitations section "Additionally, the location and length of the stricture or what management was required were not described" Line 294

5. The author set up strict exclusion and inclusion criteria and only focus on RFFF or ALT Phalloplasty. The pooled meta-analysis for flap related outcome, donor site morbidity urologic complication, sensitivity and patients' satisfaction comparison between rolled RFFF and ALT is possible.
Reply 5: Given the inconsistent definitions of these criteria- the outcomes could not be reliably combined to determine clinical effectiveness/weighted pooled average for meta-analysis, thus the results were displayed in a descriptive fashion.

6. Although the authors want to evaluate urethral related outcomes in a homogeneous cohort. The technique reviewed so far is too deficient so the result is scarce. The procedure of phalloplasty is limited to rolled RFFF and ALT. From the forefront of microtechnological reconstructive surgery, combined flap is getting more and more such as SCIP combine RFFF or SCIP combine ALT. Review the urethral related outcome regarding to combined flap is worthy and could provide helpful information for transgender surgeons.

Reply 6: We agree that information on outcomes of combined flaps would be helpful. Due to alterations and advancement in surgical technique, even within single cohorts, the available data is heterogeneous. It is the hope that with standardized outcomes reporting a more detailed review of outcomes related to surgical technique can be reviewed.

Reviewer C

The authors bring a relevant question to understand Urethral Outcomes in Metoidioplasty and Phalloplasty patients.

It would be helpful for the authors to do a more in depth evaluation of the chosen Metoidioplasty articles. There is no description if BMG was used and what other technique was chosen to reconstruct the bulbar urethra?

Could the authors please expand on the relationship of urethral complications vs staged procedures and of this cohorts use prelamination?

Reply 7: Inclusion criteria is listed as "prior or concomitant vaginectomy including metoidioplasty or the most commonly performed types of phalloplasty (radial forearm [RF]; and anterolateral thigh [ALT] flaps)" line 118. During review it was found that the data was insufficient to clarify urethral outcomes with relation to single vs staged procedure. Use of prelaminated urethral construction was listed as an exclusion criterial- line 126

Please comment if postoperative protocols differ patients with lower complications rates ?
Did any of the selected studies had reconstruction of the urethra to the base of the Phalloplasty and not lengthen to the tip.

Reply 8: Post operative protocols were not reviewed. Glanular meatus (lengthen to the tip) was a reported outcome. For RF 3 studies reported this outcome finding 70 to 90% off included patients had the urethra lengthened to the tip (line 200) and for ALT 3 studied reported 75 to 100% of individuals had a glanular meatus

Please described what techniques were used for management of Metoidioplasty complications.

Reply 9: In the limitations section we discuss how stricture management techniques were not routinely described in the reviewed literature (line 293). A future direction for standardized outcomes and reporting can be clarifying, not only the diagnosis, but the severity and management of stricture.

It would be very helpful after the review the authors could point to what factors and techniques could be use to lower complication rate.

Reply 10: This is a stated goal for future direction. Hopefully once clarified and standardized outcome reporting is developed we can identify technical variations that can improved complication rates.