

One Years' Experience of Buccal Mucosa Graft for Hypospaedia Repair

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ABSTRACT

Aim: To share our experience of buccal mucosa graft in hypospaedia repair and to see the complications and outcome of definitive procedure.

Study Design: Retrospective analysis.

Place and duration: Department of Urology, Sohail Medical Center Timergara Dir from 1st December 2017 to 31st January 2019.

Methods: Total 40 patients for hypospaedia reconstruction were included in this study. Patient's detailed demographics including age, sex and residence were recorded after taking written consent from attendants/parents. All participants were examined physically by attending surgeon. All patient underwent through buccal mucosa graft in two stage procedure. Complication were documented on follow up visits 1week(17 days), 3week(34days), and 6week (51 days).

Results: Sixteen (40%) patients were ages <5 years while 24 (60%) were ages above 5 years with mean age 7.25±3.22 years. No complication was occurred after first stage procedure. At postoperative follow-up after two stage procedure 4 (10%) patients developed wound infection. No patient developed wound dehiscence while 3 (7.5%) developed urethrocutaneous fistula. At final follow-up 15 (37.5%) patients showed excellent, 20 (50%) showed good 3 (7.5%) showed fair and 2 (5%) showed poor functional and cosmetic outcomes. Overall treatment successful rate was 85%.

Conclusion: Buccal mucosa graft in hypospaedia repair gives better functional and cosmetic outcomes with fewer rate of complications.

Keywords: Hypospaedia repair, Buccalmucosa graft, Fistula formation

INTRODUCTION

Difficulties of hypospadias fix incorporate draining/hematoma, meatal stenosis, urethrocutaneous fistula, urethral injury, urethral diverticulum, wound contamination, weakened recuperating, and breakdown of the repair¹. Inspection of the accessible tissue to decide if sufficient nearby tissue exists versus the requirement for an extragenital tissue join, will fundamentally effect and direct the fix choices. This dynamic procedure is basic to accomplishing an effective result^{2,3}.

At whatever point conceivable, the promptly adjoining or neighborhood pedicled, all around vascularized tissue is favored for reoperative hypospadias medical procedure. Without the neighboring or nearby tissue and in increasingly serious reoperative cases, a free join bladder mucosa⁴, Buccal mucosa (dry or wet, onlay or tubularized)^{5,6}, or a mix of the two might be used⁷. Buccalmucoa has gotten the favored material for recreation, at whatever point a youngster with skin-lacking hypospadias needs a reoperation⁸. Buccal mucosa as a 'dry' onlay followed by tubularization, at the second phase of fix for reoperative hypospadias, is quick turning into an alluring other option. The buccal mucosa has all the earmarks of being a sturdy wellspring of non-genital tissue for urethral replacement, which was first presented in 1941

by Humby⁹. The vast majority of the urethral reproduction specialists want to utilize the buccal mucosa as a dorsal or ventral onlay fix in light of the high achievement rates¹⁰.

We conducted present study to examine the outcomes of buccal mucosa graft for hypospaedia repair. This study will be beneficial for making decision in the management of hypospaedia repair.

MATERIALS AND METHODS

This retrospective/observational study was conducted at Department of urology Sohail Medical Center Timergara Dir from 1st December 2017 to 31st January 2019. Total 40 patients for hypospaedia reconstruction were included. Patient's detailed demographics including age, sex and residence were recorded after taking written consent from attendants/parents. Patient's ages were ranging 2 to 12 years. Diabetic patients, patients with congenital anomalies, patients with acute renal failure and those with no consent were excluded. All participants were examined physically by attending surgeon. All patients underwent through buccal mucosa graft in two stage procedure. Complications such as, wound dehiscence, meatal stenosis, urethrocutaneous fistula, urethral stricture, urethral diverticulum, and wound infection were examined postoperatively during the follow-up period. Follow-up was taken at 1week(17 days), 3weeks (34days) and 6week (51 days). At final follow-up functional and cosmetic outcomes were examined as excellent, good, fair and poor results.

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Maximum urine flow was examined. Treatment successful rate was examined. All the data was analyzed by SPSS 24.

RESULTS

Sixteen (40%) patients were ages <5 years while 24 (60%) were ages above 5 years with mean age 7.25 ± 3.22 years. According to the hypospaedia location 30 (75%) patients had proximal, 7 (17.5%) had distal and 3 (7.5%) had midshaft (Table 1). No complication was occurred after first stage procedure. At postoperative follow-up after two stage procedure the overall complications found in 7 (17.5%) patients while 33 (82.5%) patients had no complications. (Fig. 1).

We found that 4 (10%) patients developed wound infection. No patient developed wound dehiscence while 3 (7.5%) developed urethrocutaneous fistula, none of patients had developed meatal stenosis, urethral stricture, and urethral diverticulum (Table 2). At final follow-up according to the functional outcomes (max urine flow) and cosmetic outcomes we found that 15 (37.5%) patients showed excellent, 20 (50%) showed good 3 (7.5%) showed fair and 2 (5%) showed poor functional and cosmetic outcomes. Overall treatment successful rate was 85% (Table 3).

Table 1: Baseline characteristics of all the patients

Variable	No.	%
Age (years)		
<5	16	40.0
>5	24	60.0
Hypospaedia location		
Proximal	30	75%
Distal	7	17.50%
Midshaft	3	7.50%

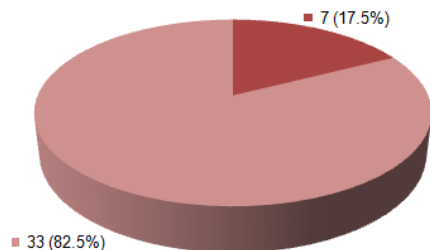
Table 2: Postoperative complications found during follow-up

Variables	No.	%
Wound Infection	4	10.0
Urethrocutaneous fistula	3	8.0
Wound Dehiscence	-	-
Meatal Stenosis	-	-
urethral stricture	-	-
Urethral diverticulum	-	-

Table 3: Functional and cosmetics outcomes at final follow-up

Variables	No.	%
Excellent	15	37.5
Good	20	50
Fair	3	7.5
Poor	2	5

Fig. 1: At follow-up postoperative overall complications rate



DISCUSSION

Hypospaedia reconstruction is one of the commonly performed surgical interventions in all over the world. Many of techniques have been applied for hypospaedia repair, in which buccal mucosa graft is one of the most frequently performing technique due to its better functional and cosmetics outcomes with fewer rate of complication and failure rate^{11,12}. The present study was conducted aimed to examine the outcomes of buccal mucosa graft for hypospaedia reconstruction in children. In this regard 40 patients were enrolled with ages 2 to 12 years. Majority of patients 60% were ages above 5 years with overall mean age was 7.25 ± 3.22 years. According to the hypospaedia location 30(75%) patients had proximal, 7(17.5%) had distal and 3(7.5%) had midshaft. These results comparable to many of previous studies in which average age of patients was 6.5 years and proximal hypospaedia was the most common location^{13,14}.

In our study we found that no complication was found after one stage procedure. Two stage procedures were done after 3 to 6 months of one stage procedure. Overall postoperative complications were found in 7(17.5%) patients while 33(82.5%) patients had no complications. A study conducted by Shukla et al¹⁵ regarding two stage repair of proximal hypospaedia demonstrated that 677(96.7%) patients had no complication. Fistula was present in 21(3%) patients. There was no case of meatal stenosis in their study.

In present study we found that 4 (10%) patients developed wound infection. No patient developed wound dehiscence while 3(7.5%) developed urethrocutaneous fistula. None of patients had developed meatal stenosis, urethral stricture, and urethral diverticulum. Johnson et al¹⁶ reported that 29% patients had developed complications including stricture, fistula, or chordee while 71% patients underwent two stage buccal mucosa graft had no complications at final follow-up. A study conducted by Pandey et al¹⁷ regarding buccal mucosa graft after failed hypospaedia repair, in their study 35 patients were underwent buccal mucosa graft and they reported that 4 patients developed complications in which 1 graft necrosis; 1 coronary fistula; 1 scrotal flap necrosis and 1 case of hematoma.

In this study at final follow-up according to the functional outcomes (max urine flow) and cosmetic outcomes we found that 15(37.5%) patients showed excellent, 20(50%) showed good 3(7.5%) showed fair and 2 (5%) showed poor functional and cosmetic outcomes. Overall treatment successful rate was 85%. Muxin Zhao et al¹⁸ reported similarity in their study majority of patients had good functional and cosmetic outcomes whom were undergone two stage buccal mucosa graft for hypospaedia repair. Some of other studies demonstrated that buccal mucosa graft for complex and severe hypospaedia showed significant better functional and cosmetic outcomes with fewer rate of complications and failure rate^{19,20}. We found that the overall successful rate was 85%.

CONCLUSION

Hypospaedia repair associated with higher complications and failure rate. We conclude that buccal mucosa graft in

Hypospadias repair gives better functional and cosmetic outcomes with fewer rate of complications and failure rate. Majority of patients showed good functional and cosmetic outcomes.

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