PRIMARY REPAIR OF PROXIMAL (GRADE IV) HYPOSPADIAS UTILIZING TUNICA VAGINALIS VASCULARISED FLAP

MOHAMMED H. ALDABBAGH, MBChB, FIBMS*

Submitted 03 December 2024; accepted 19 February 2024

ABSTRACT

Background: Proximal (grade IV) hypospadias like scrotal and perineal are considered as severe challenging types for surgeons, problematic for the patients and their families, More than three hundreds surgical techniques were used to manage different type of hypospadias . Most of them associated with high incidence of complications. These complications are much more common in the proximal types as in our study. Post-operative fistula formation is expected complications. Utilising the tunica vaginalis as an additional layer during repair may prevent such complications. In this study we evaluated the benefits of using the tunica vaginalis flap as a supportive layer in the primary repair. Most related literatures about this subject used this technique after surgery to manage cases with post-operative fistulas. In the contrary we used this technique during the formal surgery to cover the new urethra to prevent fistula formation not after surgery.

Aims of the study: A retrospective study, on fourteen patients with severe hypospadias (Proximal types), to evaluate the role of tunica vaginalis flap in the primary repair of the hypospadias.

Patients and Methods: Between January 2016 and January 2024, fourteen children with Grade IV hypospadias were operated on. Only severe cases were treated with this method other simpler and more common cases were treated by different surgeries like Snodgrass technique. The age range was 2 to 16 years. All of them had 2 staged repair the first stage was correcting the chordae by incising the urethral plate excising the fibrous chordae tissues then covering the bare shaft with dorsal flaps. The tunica flap was used in the second stage which was done 6 to 12 months later. Folly's catheter was used for ten to fourteen days after surgery. And the patients were followed for a variable time 3months to 2 years period for the development of complications like fistula formation or stricture. Cosmetic considerations were also noted.

Results: All the fourteen patients had proximal types (Grade IV) hypospadias. After surgery all patients had a good cosmetic outcome no fistula formation two had mild distal urethral stricture cured after few urethral dilatation. No post-operative penile torsion was noted. Two patients developed local infection treated conservatively. One patient had partial glanular dehiscence at the distal end which had no clinical significance. One patient complained from on and off penile cutaneous swelling lasted 3 weeks.

Conclusions: Using tunica vaginalis vascularised flap to cover the new urethra in severe proximal hypospadias during the second stage seems to be a successful way in preventing fistula formation without increasing the patient's morbidity.

Duhok Med J 2024; 18 (1): 21-29.

Keywords: Proximal hypospadias; Two stages surgery; Tunica vaginalis flap.

Hypospadias is a rather common pediatric surgical problem with incidence of 1 per 300 neoborn[1]. distal types like glanular and distal shaft are more common but may be easier to treat. Proximal types like scrotal although less common 10 %. They are more difficult to treat and have more post-operative

https://doi.org/10.31386/dmj.2024.18.1.3

* Assis. Prof., *Department of Medical Education, College of Medicine, University of Duhok, Duhok, Kurdistan region, Iraq. Corresponding author: Mohammed Al-Dabagh, TelNr: +964 750 420 7524 Email:* mohammed.aldabbagh@uod.ac

complications. Currently, primary hypospadias is classified into four grades, grade 4 is the most difficult to treat (Fig. 4). Historically too many methods had been used to correct severe types. None of them is considered the golden standard in a achieving the optimum goals and preventing complication. Generally distal types are being managed by tubularised incised plate (TIP)[2]. While the treatment of proximal types with chordee is more controversial some surgeons use TIP[3]. Others prefer two staged repair[4],[5]. To decrease the incidence of complications especially fistula formations some authors prefer to use an additional covering layer before skin closure. One of these methods is utilising the tunica vaginalis as a protective layer. Reviewing the related literature we found that using the tunica was in different ways. Some authors used it after surgery of proximal hypospadias to close the urethrocutanous fistula[6]. Others used it with tubularized incised plate (TIP) method either during surgery as a supporting layer[7]. Or After TIP to close the fistulae[8].

A group of authors also published papers studying the benefits and problems of using the flap as an additional step in the management of mixed groups of hypospadias patient (proximal and distal type)[9],[10].

In this study we used the tunica vaginalis flap as a supportive layer during the formal surgical repair for severe types only (proximal types), selectively in patients who had 2 staged repair. Trying to identify the protective benefits against the formation of post-operative fistula and other problems related to this technique.

PATIENTS AND METHODS:

Between January 2016 and January 2024, fourteen children with proximal type hypospadias (Grade IV) were operated on, Figure 1 illustrate the classification[11]. Surgeries were performed at the pediatric surgery centre in Duhok city. Informed consents were signed by the patients' caregivers (usually the parents) according to the hospital regulations. Only severe cases were treated with this method other simpler and more common cases were treated by different surgeries (Snodgrass technique). Proximal types with single stage repair were also excluded from the study. Boys with bilateral undescended testes were also excluded from the study. The patients had their hypospadiac opening at the vicinity of the scrotum (11 scrotal and three penoscrotal type). Seven patients had received pre-operative testosterone.

Table 1: patients' characteristics

Variables	
Total number	
Age at the time of surgery	1-3 years 3-5 yeas > 5 years
Grade of the hypospadias	Grade 4: Scrotal penoscrotal
Preoperative testosterone therapy	Received Not received
Number of stages of surgery	Single Two stages

All of them had 2 staged repair the first stage was correcting the chordae by incising the urethral plate then covering the bare shaft with dorsal flaps. Surgery time for first operation took 60 to 80 minutes while the second surgery took 2 to 3 hours. The tunica flap was used in the second stage which was done 6 to 12 months later. The neo urethra was created by tubularising the local skin flaps, and then a second layer added from the surrounding tissues. Haemostasis was achieved by local diluted adrenaline injection and bipolar electrocautery .The edge of the wound elevated toward the scrotum subcutaneous tunnel created. Tunica vaginalis vascularised flap then created from one side left or right tunica figure2. The flap length should be suitable to the length of the stretched penis and the width is about 10 mm. Blood supply should be meticulously preserver to prevent flap ischemia. The flap

then passed under the skin toward the ventral penile site and used to cover the neo urethra (figure3). The cremasteric muscles were not excluded from the flap. The skin closed over the flaps (figure4). Folly's catheter was used for ten to fourteen days after surgery. And the patients were followed as outpatients for a variable time 3months to 2 years period for the development of complications like fistula formation or stricture. Cosmetic considerations were also noted. The site of operation examined for infection dehiscence fistula formation chordee and the urethra was calibrated by metallic dilators to all cases. Urethroscopy was done in 3 patients to exclude strictures and diverticula.

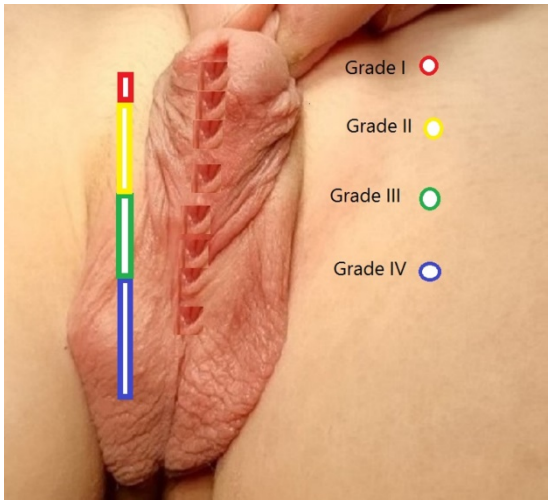

Figure 1

Classification of Hypospadias to 4 grades:
Grade I (glanular) hypospadias,
Grade II (distal) the meatus in the distal half of the penis with or without superficial chordee.
Grade III (proximal) the meatus in the proximal half of the penis with or without superficial chordee.
Grade IV or (perineal) (the meatus proximal to the penoscrotal junction, usually with severe chordee that necessitates division of the urethral plate, usually with small glans11.

Figure 2

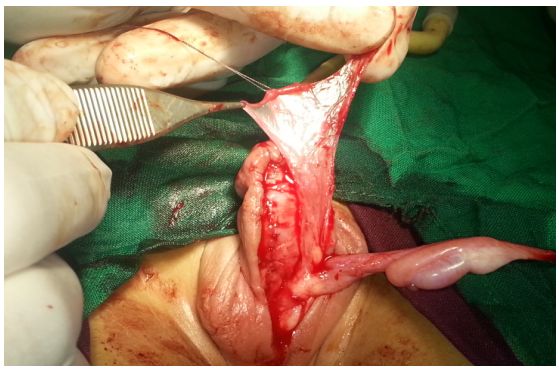

Figure 3

Figure 4

RESULTS:

The total number of patients is fourteen. The patients' age range was 2 to 16 years at the time of the second stage. All the patients had proximal types hypospadias at the vicinity of the scrotum grade IV (at or proximal to the penoscrotal junction) figure (5) associated with variable degrees of chordae. All patients had the same types of 1st and 2nd surgery. After surgery all patients had good cosmetic outcome. No fistula formation was recorded, two had distal mild urethral stricture responded well to dilatation with urethroscopy 2 to 3 sessions. No post-operative penile torsion was noted. Two patients developed local infection cutaneous infection and urethritis, they complaint of discharging purulent drops of urine after penile squeezing (retrograde urethrogram and later urethroscopy was done to exclude diverticulum or stricture and was normal) treated conservatively. One patient had partial glanular dehiscence at the distal end which had no clinical or cosmetic significance. One patient complained from on and off penile cutaneous swelling with dysuria lasted 3 weeks. Table 2 shows the post-operative results

Table 2 post-operative results

Variables	Number of patients
Fistula formation	0
Strictures:	
Distal	2
Long	0
Penile torsion	0
Glanular dehiscence	
Partial	1
complete	0
Wound infection	2
Penile cutaneous swelling	1
Urethroscopy needed after surgery	3

Figure 5

DISCUSSION:

Historically a lot of procedures were described to manage different types of hypospadias the selection of the suitable surgery depends on many factors including the site of the meatus, the presence of chordee, the state of the urethral plate etc. But surgeon preference plays an important role in the management. However during the last few decades the picture is becoming clearer. As Snodgrass technique becoming more popular for distal and mid shaft hypospadias, with increasing success[2]. Two staged repair is suitable for severe proximal types[5],[9]. However, post-operative complications are still of a major concern both for the surgeon and the family. Urethrocutanous fistula is the most common complication after surgery. Especially those with proximal types. To decrease the incidence of fistulas a lot of procedures were published. Among these techniques is the use of tunica vaginalis flap. We used the tunica flap in combination with the second stage surgery as part of the procedure to prevent the fistula formation. Not after surgery to treat fistula. Some surgeons used this flap after surgery to treat fistula. As redo operations for hypospadias complication carry much higher incidence of problems[5]. We thing

that using the flap as a preventive measure at the 1ry surgery better than using it after surgery for managing complications avoiding the need of another annoying surgery. Snow et al. also recommended the preventive use of the tunica flap during primary hypospadias repair, they reported urethrocutanous fistula rate of 9%, but unlike us they use it for several types of hypospadias (not only proximal types)[10]. Other surgeons used it in combination with Snodgrass technique[12]. We used it only for proximal hypospadias namely scrotal and penoscrotal types who needed two staged repair. As our patients with distal hypospadias were treated by Snodgrass as we've reported in our previous study[13]. Because of the low incidence of fistula formation in Snodgrass technique we thing that it is not necessary to use the tunica flaps for patients treated by Snodgrass method2. The penis or phallus can be described as micropenis or, Microphallus, when the stretched length is less than 2.5 standard deviations (SDs) below the normal mean for age. The term micropenis refers to normally formed penis, while microphallus is the term used for cases with hypospadias[14].

Micropenis can be treated by testosterone. Usually 1 to 2 courses using 3 doses of intramuscular testosterone (25-50mg) given at one month intervals[15]. We use pre-operative testosterone therapy with seven of our patients. Two had microphallus the stretched penile length was less than lower limit for age, the others had narrow glanular width. Given local dihydrotestosterone 2.5% gel for one to two months. Or a course of intramuscular 25mg testosterone enanthate monthly for 3 months. Glans width is usually reduced in patients with high grade hypospadias compared the control group of same age[16],[17].

We did not use hormonal therapy routinely for all patients. Literature does not support that with high level evidence[18],[19],[20].

Studying fourteen patients might not be enough to evaluate the technique but it give a strong idea about its benefits. The reason behind the small number is that we've excluded many patients for example distal types (which are much more common) or proximal hypospadias with single stage. As we think that studying this technique on single type of hypospadias will be more valid in assessing the benefits and problems. So we selected only severe (proximal) types for the study. However other researchers reported the utilization of tunica flap on different types of hypospadias and their results were also encouraging[7].

Researchers have reported many types of complications following the repair of scrotal hypospadias like complete failure or dehiscence of the repair, stricture, chordee, and more commonly urethrocutanous fistula with incidence reaching to 5%. One way to reduce the incidence of these complications is the use of tunica vaginalis protective flap which a lot of surgeons claims its efficacy in preventing fistula formation[21].

Regarding our patients no fistula formation was reported nor complete dehiscence. Penile torsion was not noticed in this study although.

We did not deliberately exclude the spermatic muscle from the tunical flap some literature report it[22].

Literature published incidence of urethral stricture after hypospadias repair in children about 6.5% 23. long term urethral strictures were not reported in this study, only noticed temporally in 2 cases that responded well to urethroscopy and dilatation. No history of weak stream. All the new urethras were calibrated by metallic dilators. Retrograde Urethrography was done to one patient who complained of discharging a gush of small amount of purulent urine after squeezing or milking the penis 2 weeks after surgery (as if small amount of urine retained in the urethra after micturition) and no diverticulum or stricture was found. And his condition was cured after 3 weeks.

Some surgeons used the tunica vaginalis as a free graft[24]. We thing that using a vascularised flap is more reasonable to assure a good blood supply and because of the proximity and easiness of transferring the flap not necessitating a free graft.

CONCLUSIONS

Using tunica vaginalis vascularised flap to cover the new urethra in proximal hypospadias during the second stage seems to be a successful way in preventing fistula formation and dehiscence without increasing the patient's morbidity.

REFERENCE

1. Baskin LS: Hypospadias and urethral development. J Urol. 2000,163:951-6.
2. W Snodgrass: Tubularized incised plate urethroplasty for distal hypospadias. The Journal of Urology 1994vol. 151, no. 2, pp.464–465,.
3. W. Snodgrass, M. Koyle, G. Manzoni, R. Hurwitz, A. Caldamone, and R. Ehrlich, “Tubularized incised plate hypospadias repair for proximal hypospadias,” The Journal of Urology, vol. 159, no. 6, pp. 2129–2131, 1998.
4. Bracka A. Hypospadias repair: the two-stage alternative. Br J Urol. 1995 Dec;76 Suppl 3:31-41. doi: 10.1111/j.1464-410x.1995.tb07815.x. PMID: 8535768..
5. Greenfield SP, Sadler BT, Wan J. Two-stage repair for severe hypospadias. J Urol. 1994 Aug;152(2 Pt 1):498-501. doi: 10.1016/s0022-5347(17)32781-7. PMID: 8015102.
6. Sharma N, Bajpai M, Panda SS, Singh A. Tunica vaginalis flap cover in repair of recurrent proximal urethrocutaneous fistula: a final solution. Afr J Paediatr Surg. 2013 Oct-Dec;10(4):311-4. doi: 10.4103/0189-6725.125421. PMID: 24469479.
7. Tavakkoli Tabassi K, Mohammadi S. Tunica vaginalis flap as a second layer for tubularized incised plate urethroplasty. Urol J. 2010 Fall; 7(4): 254-7. PMID: 21170855.
8. Routh JC, Wolpert JJ, Reinberg Y. Tunneled tunica vaginalis flap is an effective technique for recurrent urethrocutaneous fistulas following tubularized incised plate urethroplasty. J Urol. 2006 Oct;176(4 Pt 1):1578-80; discussion 1581. doi: 10.1016/j.juro.2006.06.032. PMID: 16952688.
9. Pescheloche P, Parmentier B, Hor T, Chamond O, Chabaud M, Irtan S, Audry G. Tunica vaginalis flap for urethrocutaneous fistula repair after proximal and mid-shaft hypospadias surgery: A 12-year experience. J Pediatr Urol. 2018 Oct;14(5):421.e1-421.e6. doi: 10.1016/j.jpurol.2018.03.026. Epub 2018 May 21. PMID: 29859768.
10. Snow BW, Cartwright PC, Unger K. Tunica vaginalis blanket wrap to prevent urethrocutaneous fistula: an 8-year experience. J Urol. 1995 Feb;153(2):472-3. doi: 10.1097/00005392-199502000-00061. PMID: 7815624.
11. Hadidi, A.T. (2022). Classification and Assessment of Hypospadias. In: Hadidi, A.T. (eds) Hypospadias Surgery. Springer, Cham. https://doi.org/10.1007/978-3-030-94248-9_9
12. Tavakkoli Tabassi K, Mohammadi S. Tunica vaginalis flap as a second layer for tubularized incised plate urethroplasty. Urol J. 2010 Fall;7(4):254-7. PMID: 21170855...

13. Aldabbagh M. Evaluation Of Snodgrass technique in The management of Hypospadias In Heevi hospital. Duhok Med J. 2011;5(1): 41-49. https://www.iasj.net/iasj/article/160460
14. Feldman KW, Smith DW. Fetal phallic growth and penile standards for newborn male infants. J Pediatr. 1975 Mar;86(3):395-8. doi: 10.1016/s0022-3476(75)80969-3. PMID: 1113226.
15. Bin-Abbas B, Conte FA, Grumbach MM, Kaplan SL. Congenital hypogonadotropic hypogonadism and micropenis: effect of testosterone treatment on adult penile size why sex reversal is not indicated. J Pediatr. 1999 May;134(5):579-83. doi: 10.1016/s0022-3476(99)70244-1. PMID: 10228293.
16. da Silva EA, Lobountchenko T, Marun MN, Rondon A, Damião R. Role of penile biometric characteristics on surgical outcome of hypospadias repair. Pediatr Surg Int. 2014 Mar;30(3):339-44. doi: 10.1007/s00383-013-3442-1. Epub 2013 Dec 28. PMID: 24374664.
17. O'Kelly F, DeCotiis K, Zu'bi F, Farhat WA, Koyle MA. Increased hand digit length ratio (2D:4D) is associated with increased severity of hypospadias in pre-pubertal boys. Pediatr Surg Int. 2020 Feb;36(2):247-253. doi: 10.1007/s00383-019-04600-3. Epub 2019 Nov 20. PMID: 31748946..
18. Wright I, Cole E, Farrokhyar F, Pemberton J, Lorenzo AJ, Braga LH. Effect of preoperative hormonal stimulation on postoperative complication rates after proximal hypospadias repair: a systematic review. J Urol. 2013 Aug;190(2):652-59. doi: 10.1016/j.juro.2013.02.3234. Epub 2013 Apr 15. PMID: 23597451.
19. Netto JM, Ferrarez CE, Schindler Leal AA, Tucci S Jr, Gomes CA, Barroso U Jr. Hormone therapy in hypospadias surgery: a systematic review. J Pediatr Urol. 2013 Dec;9(6 Pt B):971-9. doi: 10.1016/j.jpurol.2013.03.009. Epub 2013 Apr 19. PMID: 23602841..
20. Chua ME, Gnech M, Ming JM, Silangcruz JM, Sanger S, Lopes RI, Lorenzo AJ, Braga LH. Preoperative hormonal stimulation effect on hypospadias repair complications: Meta-analysis of observational versus randomized controlled studies. J Pediatr Urol. 2017 Oct;13(5):470-480. doi: 10.1016/j.jpurol.2017.06.019. Epub 2017 Jul 29. PMID: 28939350.
21. Radhakrishnan CN, Radhakrishna V. The tunica-vaginalis flap to prevent postoperative fistula following severe hypospadias repair: Has the search for Holy Grail ended? Actas Urol Esp (Engl Ed). 2021 Oct;45(8):552-556. English, Spanish. doi: 10.1016/j.acuroe.2021.07.005. Epub 2021 Sep 14. PMID: 34531163.
22. Pattaras JG, Rushton HG. Penile torque after the use of tunica vaginalis blanket wrap as an aid in hypospadias repair. J Urol. 1999 Mar;161(3):934-5. PMID: 10022729.
23. Duel BP, Barthold JS, Gonzalez R. Management of urethral strictures after hypospadias repair. J Urol. 1998 Jul;160(1):170-1. PMID: 9628643.
24. Voges GE, Riedmiller H, Hohenfellner R. Tunica vaginalis free grafts for closure of urethrocutaneous fistulas. Urol Int. 1990;45(2):88-91. doi: 10.1159/000281676. PMID: 2330663.

پوختە

چاککردنەوەی سەرەتایی هێپۆسپادیاکانی نزیک (پۆلی IV) بە بەکارهێنانی تونیکا ڤاجینالیس ڤاسکولاریس

پێشینە: هێپۆسپادیا نزیکەکان (پۆلی IV وەکو سکرۆتال و پەرینیال وەک جۆرە چالاکە تووندەکان بۆ پزیشکانی نەشتەرگەری دادەنرێت، کێشەدارە بۆ نەخۆشەکان و خێزانەکانیان، زیاتر لە سێ سەد تەکنیکەکانی نەشتەرگەری بەکارهێنران بۆ بەڕێوەبردنی جۆری جیاوازی هایپۆسپادیا. زۆربەیان پەیوەندییان بە ڕێژەی بەرزی ئاڵۆزییەکانەوە هەیە. ئەم ئاڵۆزیانە زۆر زیاتر لە جۆرەکانی نزیکدا وەک لە تویژینەوەکەماندا باون. دروستبوونی فیستۆلا دوای نەشتەرگەری ئاڵۆزییە چاوەڕوانکراوەکانە. بەکارهێنانی تونیکا ڤاجینالیس وەک چینێکی زیادە لە کاتی چاککردنەوەدا ڕەنگە ڕێگری بکات لەو جۆرە ئاڵۆزیانە. لەم لێکۆڵینەوەیەدا ئێمە سوودەکانی بەکارهێنانی پەنجەی تونیکا ڤاجینالیسمان وەک چینێکی پاڵپشت لە چاککردنەوەی سەرەتاییدا هەڵسەنگاند. زۆربەی ئەدەبیاتە پەیوەندیدارەکان سەبارەت بەم بابەتە ئەم تەکنیکەیان بەکارهێناوە دوای نەشتەرگەری بۆ بەڕێوەبردنی حاڵەتەکانی تووشبوو بە فیستۆلی دوای نەشتەرگەری. بە پێچەوانەوە ئێمە ئەم تەکنیکەمان لە کاتی نەشتەرگەری فەرمیدا بەکارهێنا بۆ داپۆشینی میزڵدانی نوێ بۆ ڕێگریکردن لە دروستبوونی فیستۆلا نەک دوای نەشتەرگەری.

ئامانجەکانی تویژینەوەکە: تویژینەوەیەکی پاشگەزبوونەوەی، لەسەر چوارده نەخۆش کە تووشی هایپۆسپادیایەکی تووند بوون (جۆرەکانی نزیک)، بۆ هەڵسەنگاندنی ڕۆڵی پەنجەی تونیکا ڤاجینالیس لە چاککردنەوەی سەرەتایی هیپۆسپادیادا.

نەخۆش و شێوازەکان: لە نێوان ژانویەی ٢٠١٦ و ژانویەی ٢٠٢٤، چوارده منداڵی تووشبوو بە پۆلی چوارەمی هیپۆسپادیا نەشتەرگەرییان بۆ کراوە. تەنها حاڵەتە تووندەکان بەم شێوازە چارەسەر کران حاڵەتەکانی تری سادەتر و باوتر بە نەشتەرگەری جیاواز وەک تەکنیکی سنۆدگراس چارەسەر کران. مەودای تەمەنی ٢ بۆ ١٦ ساڵ بووە. هەموویان 2 قۆناغی چاککردنەوەیان هەبوو قۆناغی یەکەم ڕاستکردنەوەی کۆردەکان بوو بە بڕینی پلاکی میزڵدان کە شانەکانی کۆردە ڕیشاڵیەکان دەبڕییەوە پاشان شەفتی ڕووت بە پەنجەی پشتەوە داپۆشی. لە قۆناغی دووەمدا پەنجەی تونیکا بەکارهات کە دوای ٦ بۆ ١٢ مانگ ئەنجامدرا. کاتێتەرەکەی فۆلی بۆ ماوەی دە بۆ چوارده ڕۆژ دوای نەشتەرگەری بەکارهێنرا. وە نەخۆشەکان بۆ ماوەیەکی گۆڕاو بەدواداچوونیان بۆ کرا لە ماوەی ٣ مانگ بۆ ٢ ساڵ بۆ گەشەکردنی ئاڵۆزییەکانی وەک دروستبوونی فیستۆلا یان تووندبوونەوە. هەروەها ڕەچاوکردنی جوانکاریش ئاماژەی پێکرا.

دەرەنجامەکان: هەر چوارده نەخۆشەکە جۆری نزیک (پۆلی(IV ی هایپۆسپادیایان هەبوو. دوای نەشتەرگەری هەموو نەخۆشەکان دەرئەنجامێکی جوانکاری باشیان هەبوو هیچ فیستۆلایەکیان نەبوو دوو کەسیان تووندبوونەوەی سوکی دووری میزڵدانیان هەبوو دوای کەم فراوانبوونی میزڵدان چاک بووەوە. هیچ پێچانی ئەندامی نێرینە لە دوای نەشتەرگەری تێبینی نەکرا. دوو نەخۆش تووشی هەوکردنی ناوخۆیی بوون کە بە شێوەیەکی کۆنەپەرستانە چارەسەر کران. نەخۆشێک لە کۆتایی دووردا بڕینی بەشەکی گلانەکانی هەبوو کە هیچ گرنگییەکی کلینیکی نەبوو. نەخۆشێک سکاڵای لەسەر و دەرەوەی ئەندامی نێرینە هەبوو ئاوسانی پێستی ئەندامی نێرینە ٣ هەفتەی خایاند.

دەرەنجامەکان: بەکارهێنانی پەنجەی بۆرییەکانی زێی تونیکا بۆ داپۆشینی میزڵدانی نوێ لە هێپۆسپادیا تووندەکانی نزیک لە قۆناغی دووەمدا پێدەچێت ڕێگەیەکی سەرکەوتوو بێت لە ڕێگریکردن لە دروستبوونی فیستۆلا بەبێ زیادکردنی نەخۆشی نەخۆشەکە.

الخلاصة

الإصلاح الأولي للمبال التحتاني القريبة (الدرجة الرابعة) باستخدام الغلالة المهبلية الوعائية

الخلفية: تعتبر المبال التحتاني القريبة (الدرجة الرابعة) مثل الصفن والعجان من الأنواع الصعبة للغاية بالنسبة للجراحين، وتشكل مشكلة للمرضى وعائلاتهم، وتم استخدام أكثر من ثلاثمائة تقنية جراحية لإدارة أنواع مختلفة من المبال التحتاني. ويرتبط معظمها بارتفاع معدل حدوث المضاعفات. هذه المضاعفات أكثر شيوعًا في الأنواع القريبة كما في دراستنا. ومن المتوقع أن يكون تشكيل الناسور بعد العملية الجراحية مضاعفات. إن استخدام الغلالة المهبلية كطبقة إضافية أثناء الإصلاح قد يمنع مثل هذه المضاعفات. قمنا في هذه الدراسة بتقييم فوائد استخدام سديلة الغلالة المهبلية كطبقة داعمة في عملية الإصلاح الأولية. استخدمت معظم الأدبيات ذات الصلة بهذا الموضوع هذه التقنية بعد الجراحة لإدارة حالات الناسور بعد العملية الجراحية. على العكس من ذلك، استخدمنا هذه التقنية أثناء الجراحة الرسمية لتغطية مجرى البول الجديد لمنع تكوين الناسور وليس بعد الجراحة.

أهداف الدراسة: دراسة استرجاعية، على أربعة عشر مريضاً يعانون من المبال التحتاني الشديد (الأنواع القريبة)، لتقييم دور سديلة الغلالة المهبلية في الإصلاح الأولي للمبال التحتاني.

المرضى والطرق: في الفترة ما بين يناير 2016 ويناير 2024، تم إجراء عملية جراحية لأربعة عشر طفلاً مصابين بالمبال التحتاني من الدرجة الرابعة. تم علاج الحالات الشديدة فقط بهذه الطريقة، أما الحالات الأبسط والأكثر شيوعًا فقد تم علاجها بعمليات جراحية مختلفة مثل تقنية سنودجراس. وكانت الفئة العمرية من 2 إلى 16 سنة. خضعوا جميعًا لعملية إصلاح على مرحلتين، وكانت المرحلة الأولى هي تصحيح الحبال عن طريق شق لوحة مجرى البول واستئصال أنسجة الحبال الليفية ثم تغطية العمود العاري باللوحات الظهرية. تم استخدام رفرف الغلالة في المرحلة الثانية والتي تم إجراؤها بعد 6 إلى 12 شهرًا. تم استخدام قسطرة فولي لمدة عشرة إلى أربعة عشر يومًا بعد الجراحة. وتمت متابعة المرضى لفترة زمنية متغيرة تتراوح بين 3 أشهر إلى سنتين لتطور المضاعفات مثل تكوين الناسور أو التضيق. ولوحظت أيضا الاعتبارات التجميلية.

النتائج: جميع المرضى الأربعة عشر لديهم أنواع قريبة من المبال التحتاني (الدرجة الرابعة). بعد الجراحة، حصل جميع المرضى على نتائج تجميلية جيدة ولم يتشكل ناسور، وكان اثنان منهم يعانيان من تضيق بسيط في الإحليل البعيد بعد قليل من توسع مجرى البول. ولم يلاحظ أي التواء القضيب بعد العملية الجراحية. طور اثنان من المرضى عدوى محلية تم علاجها بشكل متحفظ. كان أحد المرضى يعاني من تفزر حشفاني جزئي في الطرف البعيد ولم يكن له أي أهمية سريرية. اشتكى أحد المرضى من تورم جلدي في القضيب استمر لمدة 3 أسابيع.

الاستنتاجات: يبدو أن استخدام سديلة الغلالة المهبلية الوعائية لتغطية مجرى البول الجديد في حالات المبال التحتاني القريبة الشديدة خلال المرحلة الثانية هو وسيلة ناجحة في منع تكوين الناسور دون زيادة مراضة المريض.