Feminizing Genitoplasty

Emilio Merlini F.E.A.P.U.

Genital reconstruction in girls with virilized external may be a challenging task. Few areas are so controversial in Paediatric Urology as age and extent of feminizing genitoplasty. Feminizing genitoplasty has undergone major improvements in the last twenty years and many old procedures are no longer in use. Virilization of external genitalia of a 46XX girl is manly observed in congenital adrenal hyperplasia (CAH) due to 21 α-hydroxylase deficiency, representing almost 90% of all observed DSD; however the same procedures may be applied to any DSD requiring a feminilization of external genitalia. A complete genetic and endrocrine work up is required prior to any planned surgery in these patients. A DSD team including geneticist, paediatric endocrinologist, psychologist, paediatric psychiatrist and paediatric urologist/surgeon is desirable to take care of these complex patients and discuss with parents about timinig and extent of repair. I prefer to do genitoplasty at a very early age, before six months of age, in order to take advantage of the effect of maternal oestrogens on the genital structures; in older age group it is suggested to treat patient with oestrogen cream beforehand. Before surgery a clear picture of anatomy and length of the UGS is obtained by means of a genitogram and, sometimes a NMR of genitalia. The genitoplasty includes: cystoscopy with insertion of catheters in the vagina and bladder, clitoral reduction (if necessary), labioplasty and vaginoplasty. First step is represented by cystoscopy, during which the distance between the bladder neck and confluence, between confluence and external opening, and the length of vagina are measured. Surgical technique varies depending whether we have a low confluence case with a short UGS or a high confluence. Operation starts with reduction clitoridoplasty. Older techniques of amputation or recession of the clitoris are no longer in use. In the last years I have used the corpora cavernosa sparing procedure described by Pippi Salle. Corpora are detached from the glans and hidden within the labia majora The glans is then secured to the bifurcation of the corpora cavernosa, paying attention not to damage the dorsal vessels and nerves coming from under the pubic bone. The clitoral skin is then unfolded and used to create the labia minora. If the confluence is low, the UGS is minimally mobilized, opened in the midline and a posterior Fortunoff flap is raised and used to enlarge the opening of the vagina. In case of higher confluence a more extensive mobilization of the UGS (PUM) is carried out .In many cases PUM is sufficient to bring two separate orifices to the perineal leve, but if the vagina is small and the confluence is even higher, the vagina is detached from the UGS and the distal anterior wall of the vagina is created with a ventral flap obtained by the UGS split dorsally according to the procedure described by Passerini. The flap may be joined with a posterior Fortunoff flap. With this procedures we may treat most of the cases. In case of a very high vagina or in re-do cases a posterior approach to the UGS may be useful, with the child in a prone position as described by Rink or, in the most difficult cases, the ASTRA procedure may be used: Anterior Sagittal TRans Anorectal approach to mobilize the vagina. When the vagina is very small, we may perform clitoridoplasty at an earlier age, close the communication between vagina and UGS and wait until puberty to do the vaginoplasty, hoping that the different hormonal environment and the first menstruation can enlarge the vagina enough to allow an easier vaginoplasty. These extreme situations are fortunately rare but require extensive experience and sound surgical judgment to be treated appropriately.

History of hypospadias and hypospadias repairs

Dr Hooshang Pourang

در فرهنگ یونانی برای الهه هرما فرودیت (Goddess Hermaphrodite) ارزش والائی قائل بودند، چون او موجودی بود نیمه مرد و نیمه زن و خیلی از حالات او گویای وضعیت هیپوسپادیک دستگاه تناسلی بود. بنابراین قابل درک است که چرا تا اوایل قرن یکم، دوم و یا سوم بعد از میلاد توجهی به آن یا درمان آن نشد تا اینکه جراحان اسکندریه Helioddorus and Antyllus در این زمان سعی کردند برای اصلاح این آنومالی که در آن قسمت دیستال خمیده بود، آن را قطع نمایند، چون فکر می‌کردند دیستوپی مآتوس ممکن است باعث ایجاد ناتوانی شود (Impotence gene randi). طبق گزارش فرنال (Fernal) پزشک مخصوص هنری دوم شاه فرانسه او مبتلا به هیپوسپادیاس بود و ازدواجش با کاترین دومدیسی برایش فرزندی در برنداشت. پس پزشک نامبرده به شاه توصیه کرد به تعداد دفعات مقاربت بیافزاید تا بچه‌دار شود و او همین کار را کرد و پدر سه شاه بعدی و 7 فرزند دیگر گشت. با مراجعه به کتاب قانون ابن سینا تنها یافته من از بیماری‌ای که با D S D مشابهت داشت، این جملات بود: انسان‌های نر ماده : انسان‌هائی هستند که نه آلت تناسلی مردانه دارند و نه زنانه و هر دو را دارند، لیکن یکی از آنها از دیگری ناتوان‌تر است، یا یکی اصلاً در نگاه پیدا نیست و یکی از دو اندام مذکر بارز و آشکار است و ادرار از یکی می‌ریزد و دیگری مسدود است و هستند که هر دو را آشکار دارند و از هر دو راه ادرار بیرون می‌دهند (نوعی D S D ؟). از مردم شنیده‌ام که گویند برخی از این نر ماده‌ها می‌توانند با زن جماع کنند و نیز مردان می‌توانند با آنها جماع کنند که البته کمتر می‌توانم این فرمایش را تصدیق کنم. بسیاری از این اشخاص را می‌توان وسیله بریدن یکی از این دو اندام (آنچه ناپیداتر است) معالجه کرد و زخم ناشی از عمل جراحی را مداوا نمود. پس از جراحی‌های اولیه در قرون 1-2-3 بعد از میلاد تاکنون بیش از 200 روش جراحی برای ترمیم هیپوسپادیاس ارائه شده و می‌توان گفت که از اواخر 1800 میلادی ترمیم واقعی هیپوسپادیاس شروع شده است. اهداف ترمیم از روش‌های آغازین عبارت بود از: رفع خمیدگی شکمی آلت (مستقیم‌سازی آلت)، درست کردن و گسترش پیشابراه کوتاه به سمت دیستال و کثرت روش‌های عمل هم غلبه بر همین مشکلات بوده است. پاره (Pare) در سال 1500 این خمیدگی را ناشی از کشش لیگامانی در سطح شکمی آلت دانسته و خود او کلمه کوردی (Chordee) را برای این خمیدگی بکار برد. قطع این باندهای فیبروس از طریق برش پوستی عرضی در طول صفحه پیشابراهی باعث رانده شدن پروگزیمال مآتوس خواهد شد. در سال 1896 Hook مطرح کرد که خمیدگی آلت نتیجه فقدان رشد کافی کورپورا کاورنوزا است Smith و Blackfield گفتند که مستقیم‌سازی آلت جز به وسیله لخت کردن تنه آن (Deglaving) از طریق برش درست پائین مآتوس بدون نیاز به رزکسیون باندهای خم‌کننده خیالی شکمی آلت امکان‌پذیر است. در سال 1974 تزریق بدرون کورپورا در هنگام عمل برای ارزیابی درجه خمیدگی معرفی معرفی شد، سپس داکت (Duckett) متوجه شد که رزکسیون وسیع کوردی الزاماً باعث مستفیم شدن آلت نمی‌شود و گفت که باقی ماندن خمیدگی حاصل Corporal disproportion است نه کوردی و سرانجام Kaplan-Lamm-Baskin با معاینه نمونه‌های جنینی دارای هیپوسپادیاس متوجه شدند که بافت فیبروس وجود ندارد. در سال 1965 Nesbit با چین دادن پشتی کورپورا (Dorsal corporal plication) خمیدگی آلت را اصلاح کرد، البته این روش قبلاً در سال 1844 توسط Physick شرح داده شده بود. برخی از جراحان بجای این چین دادن از برش شکمی و پیوند کورپورا (Grafting of the corpora) استفاده کردند. استفاده از صفحه پیشابراه برای ترمیم هیپوسپادیاس (Urethral plate) که جراحی غالب هیپوسپادیاس در حال حاضر است بینش جدیدی است که از میانه 1980 میلادی شروع شده است. در حالیکه قبلاً جراحان آن را به عنوان یک بافت پوششی روی باندهای فیبروس برمی‌داشتند. بعداً در تلاش‌های اولیه بازسازی پیشابراه به جایگزینی پوست اهمیت داده شد که منجر به آفرینش یک قرنی تطابق دادن متنوع پره پوس، پوست تنه آلت، اسکروتوم، فلاپ‌های پوستی و گرافت‌های پوستی خارج دستگاه تناسلی برای ساختن پیشابراه جدید شده است (Neourethra). جراحانی که اولین ترمیم هیپوسپادیاس را به صورت اعمال مرحله به مرحله انجام می‌دادند، شروع کارشان برداشتن کوردی سپس یرتروپلاستی بوده است. Thiersch در سال 1869 استفاده از فلاپ پوستی برای هیپوسپادیاس را شرح داد که تکنیکش از فلاپ‌های غیرقرینه به صورت Pants-Over-Vest Closure بوده، Duplay از برش‌های سیمتریک برای ایجاد فلاپ پوستی جهت پیشابراه تازه استفاده کرد که بعداً دنیس براون جراح معروف آن را تکمیل کرد. نیاز به بافت‌های اضافی برای ساختن پیشابراه جدید یا برای پوشش اضافی قسمت شکمی تنه آلت منجر به این شد که از پوست اسکروتوم استفاده گردد. Van Hook اولین کسی بود که پره پوس پدیکوله را به صورت لوله جهت پیشابراه تازه بکار برد (Tubularized) درحالیکه ادموند در سال 1913 اینکار را با پره پوس به صورت Buttonholed انجام داده بود. داکت پره پوس داخلی پدیکوله را به صورت لوله جهت ساختن پیشابراه جدید به کار گرفت (Tubularized) و بعداً آن را به شکل Onlay استفاده کرد. فلاپ‌های پوستی آلت حداقل برمی‌گردد به دوره Ombredanne یعنی سال 1923 که از فلاپ‌های مبتنی بر مآتوس (Meatal based flap) استفاده می‌کرد. یک دهه بعد ماتیو Flip flap را اصلاح و بکار گرفت که روش اساسی و متداول ترمیم هیپوسپادیاس دیستال در دهه 1980 شد. پیشگام دیگر جراحی هیپوسپادیاس Nove Josserand است که از پیوندهای پوستی خارج دستگاه تناسلی برای بازسازی پیشابراه استفاده کرد، وی گرافت‌ها را به صورت لوله درآورده و آن را از زیر پوست آلت تونل می‌زده است. سال‌ها بعد Horton and Devine پیوندهای به دست آمده از پره پوس را برای ترمیم هیپوسپادیاس بکار برده درحالیکه اپی تلیوم مثانه و مخاط دهانی در صورت شکست پره پوس جایگزین آنها شده‌اند. در خلال اولین قرن جراحی هپوسپادیاس روش‌های ترمیمی متعددی معرفی شد که نتیجه آنها نئومآتوس ساب گلانولار بوده و در عصر مدرن هیپوسپادیولوژی مآتوپلاستی و گلانوپلاستی MAGPI توسط داکت در سال 1981 برای ترمیم هیپوسپادیاس دیستال ارائه شد. از دهه 1980 تقریباً تمامی نقائص با استفاده از MAGPI، Onlay یا لوله‌ای کردن فلاپ‌های پره پوسی به ترتیبی که داکت شرح داده بود، قابل اصلاح بود ولیFlip- flap بیشتر مورد پسند واقع شد. Snodgrass برش عمقی خط وسط صفحه پیشابراه را در تمام طول آن گستراند و بدون نیاز به فلاپ‌های پوستی اضافه آن را بصورت لوله درآورد (Tubularized to form neo-urethra). Duplay پیشابراه تازه را از پوست ساخته و صفحه پیشابراهی رادرخلال اولین مرحله عمل برای حذف کوردی برمی‌داشت. درسال 1970 King به بیماری برخورد که هیپوسپادیاس میانه تنه آلت بدون کوردی داشت. وی با لوله نمودن پوست ونترال آلت آن را تا حاشیه کورونال گسترش داد که در واقع شامل صفحه پیشابراه نیز می‌شد، او سپس با آوردن مآتوس به درون لبه‌های گلانزاین روش را اصلاح و بعد در اواخر دهه 80 میلادی و اوایل 1990 دیگران توبولاریزاسیون کامل صفحه پیشابراه را به ویژه وقتی ناودان کاملاً عمیق بود، شرح دادند.

Proximal Hypoapadias or Posterior or Sever Hypospadias

Ahmad Khaleghejad Tabari MD

Pediatric Surgery Research Center, Mofid Children's Hospital
Shahid Beheshti University of Medical Sciences

Many classifications of hypospadias have been published, mainly based on the position of the ectopic meatus, which is an insufficient criterion to define the severity of this malformation. The following classification is based on the level of division of the corpus spongiosum and is of practical help when deciding which surgical procedure to use:

1. Glanular hypospadias. The ectopic meatus sits on the glans tissue behind the normal site. Although these cases may look quite minor, they can be associated with a marked hypoplasia of the distal urethra and a glans tilt or chordee. These hypospadias cases are often tricky to repair, because parents' expectations are high and surgical techniques are not entirely satisfactory. The meatus may look very tight but is rarely causing any urine flow obstruction.

2. Hypospadias with a distal division of the corpus spongiosum associated with little or no chordee.

3. Hypospadias with a proximal division of the corpus spongiosum associated with chordee. Paradoxically, these cases are often simpler to handle because surgical techniques to correct the chordee and reconstruct a long length of urethra are well established.

In general, hypospadias surgery involves three main steps: (1) straightening of the penis (2) reconstruction of the missing urethra (urethroplasty); (3) reconstruction of the tissues forming the ventral radius of the penis (glans, corpus spongiosum, and skin). Urethroplasty in Hypospadias with a Proximal Division of the Corpus Spongiosum.

Cases of so-called major or sever e or posterior hypospadias) require, first, a correction of the chordee, following the steps: (1) degloving of the penile skin down to its base; (2) for some, freeing of the urethral plate and the distal hypoplastic urethra until sound urethra is found surrounded by the normal corpus spongiosum; (3) freeing of the two lateral vascular pillars of hypoplastic spongiosum; (4) if needed, a dorsal plication of the tunica albuginea of the corpus cavernosum using a Nesbit-type procedure or similar procedures.

Duckett popularized the concept of preserving the urethral plate, which is now standard practice for the repair of almost all hypospadias cases.

Historically, posterior hypospadias was approached by complete resection of the abnormal urethra and all tissue down to normal corporal bodies. The urethra was replaced by a tubularized vascular preputial flap from either the inner or outer prepuce, 103–105.

Presently, in the majority of posterior hypospadias cases including perineal hypospadias, the urethral plate can be preserved and a vascularized flap used in an onlay fashion. In the rare case in which the urethral plate needs to be resected, a two stage technique can be used.

Onlay Island Flap

The blood supply to the hypospadiac preputial tissue is reliable and easily delineated. The abundance of cutaneous tissue on the dorsum of the penis is vascularized in a longitudinal fashion. This tissue may be dissected from the penile skin, creating an island flap from the inner layer of the prepuce. The blood supply to the dorsal skin of the foreskin and the penile skin comes from its broad base and is

not dependent on the subcutaneous tissues, except at the remote edges of the dorsal preputial skin. The tips of the distal portion of the penile skin flaps can be excised and not used in the repair.

All cases of posterior hypospadias with or without penile curvature are approached by initially leaving the urethral plate intact. This technique can be applied to the penile shaft, as well as scrotal and perineal hypospadias. The intact dorsal plate essentially avoids the complication of proximal stricture, and the excellent blood supply has decreased the fistula rate to approximately 15%. For shorter repairs, the flap may be dissected from half the prepuce, as described by Rushton and Belman, leaving the remaining half of the foreskin available for a second layer of coverage. Long-term results with the onlay island flap have been durable.

Transverse Tubularized Island Flap

The technique of using the transverse tubularized island flap was used extensively before the concept of preserving the urethral plate. It is still successful in severe cases when the urethral plate needs to be resected, although long-term problems with diverticulum have resulted in a high reoperation rate. Technical nuances involve an oblique proximal anastomosis with interrupted sutures to avoid stenosis; fixation of the neourethra to the corporal bodies to prevent diverticulum and improve ease of catheterization; and a wide glans channel made underneath the glans cap, against the corporal bodies to avoid meatal stenosis.

Two-Stage Hypospadias Repair

An alternative approach for severe hypospadias is to transfer the dorsal prepuce to the ventrum after correcting the penile curvature. In severe cases the urethral plate may need to be resected to correct chordee. Dermal grafting may be required, and performing a urethroplasty on top of the healing graft is not suggested. Instead, Bayard flaps can be rotated from the dorsum, setting up ventral coverage for subsequent urethroplasty.

Occasionally the chordee can be corrected without resection of the urethral plate. In this case the dorsal skin can be sutured to each side of the preserved urethral plate. The second stage is performed at least 6 months after the first stage. To assist the urethroplasty within the glans, dorsal skin can be tucked within the glans wings during the first stage. Subcutaneous secondary coverage of the reconstructed urethra is performed to prevent fistula. In cases where local tissue is not readily available, a tunica vaginalis flap from the testicle can be mobilized and used to cover the urethroplasty. Long-term results documented through puberty have been durable.

Bracka Two-Stage Buccal Graft Repair

For patients with prior surgery or with severe hypospadias, Bracka described a two-stage buccal graft repair. In the first stage the penis is straightened, and the scarred urethra is discarded. Buccal mucosa is harvested from either the cheek or the lip and grafted to the prepared bed. Extensive quilting of the graft is performed to prevent hematoma from lifting off the buccal mucosa. During the first stage, glans wings are mobilized in preparation for the creation of a slit like meatus during the second stage. The second-stage urethroplasty is undertaken at least 6 months after the first stage. In the second stage, excess buccal mucosa is trimmed off the glans, setting up a two-layer glans closure. The buccal mucosa is rolled into the new urethra, and subcutaneous tissue is used for secondary coverage.

Urethral Mobilization and Advancement with Distal Triangular Urethral Plate [DTUP] Flap for Midshaft to Distal Hypospadias Experience with 251 Cases

M Mollaeian, M Sheikh, S Tarlan, F Eskandari

Bahrami Children's Hospital, Tehran University of Medical Science

Purpose:

All urethral reconstruction for hypospadias that involves using of local tissue or flaps or substitution, have inherent incidence of complications including fistula and meatal stenosis and urethral restenosis with time and recurrence of chordae. In order to avoid these complications, a urethral mobilization and advancement with distal triangular urethral plate flap technique for repairing distal and selected cases of mid shaft hypospadias with or without chordae was developed and used for 10 years. A description of the procedure and the results are presented.

Materials and methods:

From 1993 to 2004 251 boys, 2 to 16 years of age, Underwent repair of glandular (62), sub glandular (128), midshaft (28), recurrent (33), hypospadias. Chordae was present in 201 patients, the procedure initiated with penile skin degloving and correction of chordae, mobilization of meatus and urethra until the meatus reach to the tip of glans without tension. The glanular urethral plate was bivalved deeply to the corpora cavernosa proximally and a distal based triangular urethral plate flap was created. The glans wings were widely mobilized laterally. The meatus was incised proximally on its dorsal wall for 5-6 mm creating a V-shaped opening and anastomosed to the triangular urethral plate flap. The glanoplasty and meatoplasty was done. Any penile ventral skin defect was covered using preputial skin flaps.

Results:

Follow up ranged from 6 months to 10 years. None of patients had urethrocutaneous fistula or meatal stenosis. There were 2 recurrent chordae in cases of midshaft hypospadias with chordae due to inappropriate selection of cases. One patient had a hematoma that resolved after emptying under GA.

Cosmetic results were excellent.

Conclusions:

This procedure is one of the most appropriate and preferable one in all distal and selected cases of midshaft hypospadias with or without chordae due to minimal complication and excellent cosmetic results.

Key words: Urethral advancement, Distal urethral plate flap, Hypospadias

Outcome of hypospadias repair in 10 year: our center experience

Mohajerzadeh L, Khaleghnejad Tabari A, Rouzrokh M, Mirshemirani A. R.

Sadeghian N, Ghoroobi J, Izadi M, Roshanzamir F, Sarafi M, Hatefi S, Abassian A, Ghafari P

Pediatric Surgery Research Center, Shahid Beheshti University of Medial Sciences Tehran Iran

Purpose:

Considerable controversy exists regarding the optimal surgical technique for the repair of hypospadias, We collected results of hypospadias repair in last 10 years ago, to evaluate differences in surgical preferences among pediatric surgeons in our center and compare the consequences whit another centers for identify our pitfalls.

Material &Method:

From 2006 until 2016, 990 patients with hypospadias repaired primary in our center. Referral patients with complication removed from our study. We provided hypospadias sheet and collected all information from files. Then we called and requested them for visit and uroflowmetery in children more than 3 years old.

Results:

990 patients identified with mean age 33.5±29 months (3-168 month). Classification included: 154 Glanular (15.6%), 248 subcoronal (25.1%), 371 distal penile (37.5%), 65 midshaft (6.6%), 126 penoscrotal (13%), 9 scrotal (0.9%), 6 perineal (0.6%), 10 unknown (1.%).

Most common associated anomaly was inguinal hernia (7.4%). 24.8% had penile chordee, and 3.6% had undertaken circumcision another center. Preoperative hormone therapy administered in 28 cases (2.9%). Primary surgical technique included: MAGPI in 377 (38.1%), 402 TIP (40.6%), 60 Durham Smith (6.1%), 51 Mathieu (5.2%), Two stage inlay graft + TIP17 (1.7), 5 Ducket (0.5%), 29 modified Brackaand (2.9) and Onlay Flap 49(4.9%). 249(25.2%) repaired without urinary catheter and 9 patients (0.9%) underwent retrograde cystostomy. Most common complication after surgery was urethrocutaneous fistula (20%). Other complications included: 29 cases complete failure (2.9%), 20(2%) meatal stenosis, sever urethral stricture in 5 patients (o.5%), 12 cases with cordea (1.2%), 2 cases wound infection and one cases with skin necrosis.

67.9% of patients with fistula underwent redo repair one time, 19.1%two times, 10.3% three times, 2% four times and 1% five times. 60% of fistula was after TIP repair and 30% of our TIP repairers led to urethrocutaneous fistula. 55.1% of patients received oxybutinin after surgery, and 38.5% of repairs were done with magnifying loupe.

Conclusion:

The only way to improve results is to gain more experience, assess the complications met, and learn from other.

Key words: Hypospadias, Result, One stage repair

New technique for repair of hypospadias and chordee (modify sleeve and MAGPI technique)

Shahnam Askarpour

Professor of pediatric surgery, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

Introduction:

Hypospadias and chordee is one of the common diseases in pediatric and urologic surgery and there are several surgical techniques for repair these anomalies. In this article we introduce a new technique that it is modify of two techniques (sleeve and MAGPI). In this technique our aim reduce fistula and reducecomplications after surgery and release the chordee.

Material and method:

A total of 186 patients with varying degree of distal hypospadias (glandular - coronal - sub coronal) and chordee from Nov of 2014 to Nov of 2016 underwent surgery and then with 3 to 18 months follow up. In this technique at first degloving to base of penis and then release anterior and lateral of the urethra (modify of sleeve technique). In next stage with MAGPI we pull upward the urethra with MAGPI technique and then we did glanduloplasty.

In next stage we cut in mid posterior of skin and we prepare two flaps of skin and mucosa and then those brought to anterior with Z plasty repair for coverage of penis and excised excess mucosa.

Results:

There were 186 patients. 82 patients (45%) 1 to 2 years old and 68 patients (36%) 2 to 5 years old and 36 patients (19%) 5 to 12 years old. these patients hospitalized for 1 to 5 days after surgery and there were 2 cases (1%) fistula after surgery and in 16 cases (8%) necrosis of part of flap occurred but with multiple dressing was healed. In one year after surgery cosmetic results was acceptable.

Conclusion:

Modify technique of hypospadias (sleeve and MAGPI) repair is a suitable method for distal hypospadias with low complication and acceptable cosmetic results.

Hydrodissection technique to preserve the thin distal urethra when correcting hypospadias

Seyed Abdollah Mousavi

Professor of Mazandaran, University of medical sciences

Introduction:

A thin distal urethra lacking corpus spongiosum is frequently identified in cases of primary hypospadias repair. Preserving the thin distal urethra in hypospadias may simplify the operative procedure without compromising the results of tubularized incised plate urethroplasty. We present hydrodissection technique to preserve the thin urethra when treating hypospadias. We preserved the thin and long distal urethra in a14 months old boy with distal shaft hypospadias. The terminal part of urethra was very thin (hypoplastic urethra). The child was planned for a single stage correction and saving of natural tissue.

Technique:

A hydrodissection technique in combination with tubularized incised plate urethroplasty was used to hypospadias repair and preserve the thin distal urethra. Before degloving of the penile skin, Normal saline with a 25 gauge needle into the subcutaneous tissues along the proposed repair line. Injection was started at a point about 5 mm. above the thin distal urethra toward the distal side. Injected normal saline elevated the ventral skin and created a plane between it and the thin area. Dissection of the subcutaneous tissues was begun at the dorsal side. The thin distal urethra was preserved as the ventral side was approached.The skin on the thin distal urethra was incised transversely and superficially, so not to break the urethra. In this way the ventral skin was separated from the thin area. Distal of urethra had repaired with classic technique of tubularized incised plate urethroplasty. The adjacent flap was rotated towards the neourethra and supported of thin urethra. An 8 FrNelaton tube used as a urethral catheterand the baby was discharged the next day after surgery. Dressing and catheter was removed four days after surgery.

Although Duckett and Baskin stated that the proximal meatus may be located near the corona and the urethra should be opened back to good spongiosum tissue, Snodgrass described, tubularized incised plate urethroplasty reconstructs a thin urethral tube lacking spongiosumand subcutaneous tissue. We agree that the thin distal urethra is relatively ischemic compared to the normal urethra but it is healthy. However, the blood supply to the free skin graft, buccal mucosal graft and possibly the distal edge of the onlay flap are severely compromised, and all grafts could be used for urethroplasty with a reasonable success rate. Thus, it is reasonable to preserve the healthy “in situ free graft,” that is the thin distal urethra, in hypospadias repair. To reduce the possibility of fistula, it is important to cover a de-epithelialized flap or mobilized divergent spongiosal tissue on the thin distal urethra and neourethra.
We proved that even a 25 mm. segment of thin distal urethra could be successfully preserved and incorporated into the neourethra formation. At 3 months follow-up the penis has healed well and now looks like a normal circumcised penis.

Conclusion:

Therefore, we believe that the hydrodissection technique enables us to preserve the thin distal urethra when it is reasonable to preserve the naturally thin urethral tube and incorporate it as part of urethroplasty. We report our experience with this technique.

An epidemiologic evaluation of operated hypospadias patients in five years duration in aliasghar chidren hospital

S. Javad Nassiri MD, F. Jahangiri MD, S. Delshad MD, M. Moosavi Khoshdel MD

Purpose:

Determining the prevalence of type of the disease, the age of first operation, parent relation, the surgical technique which is used, the incidence of complications, and associated anomalies.

Methods:

In this chart review study, all patients who had been operated in this center were included, our exclusion criteria were; the patients who had been done their first operation in the other center and the patients who continued their surgical management in another center. All data according to the purpose of the study were collected and analyzed by SPSS software.

Results:

During five years 206 patients were included, 18.4% had parent relation, mean age of the first operation was 31 mounts (minimum 3 and maximum 148 mounts), most of the cases were distal shaft up to coronal, the most operative technique was MAGPI, the most common complication was fistula (12.1%0). Seventy-one percent of the patients had been managed in one stage and 16.5% had two, 7.8% had three, and 1.9% had four stages of operations. Of these patients 31.6% had some kind of associated anomalies.

Conclusion:

Hypospadias is one of the most common birth defect in the male newborn, the type of this defect and the most common complication, in our center is the same as the others. It seems that the stages of the operation in our center may be more than the other centers. For reducing the complications and the reducing the stages of operation and number of hospitalization, we need some RCT studies to define the effective factors.

What is the optimal treatment for Proximal hypospadias: Single center outcome of different surgical techniques over a 10-year

Mohajerzadeh L, Khaleghnejad Tabari A, Rouzrokh M, Mirshemirani A. R, Sadeghian N, Ghoroobi J, Izadi M, Roshanzamir F, Sarafi M, Hatefi S, Abassian A, Ghafari P

Pediatric Surgery Research Center, Shahid Beheshti University of Medial Sciences Tehran Iran

Introduction:

The most favorable management of proximal hypospadias remains controversial. Several techniques have been explained, but the most excellent procedure remains worried.

In this study we assessed rate of complication following proximal hypospadias with and without ventral curvature (VC), according to six different surgical techniques: tubularized incised plate (TIP) uretroplasty, dorsal inlay graft TIP (DIG), Onlay flap, Durham Smith, modified bracka and full Duckett.

Methods:

In this study we reviewed retrospectively, all patients with primary proximal hypospadias reconstructed between 2005 and 2015 in our center. Age of operation, ventral curvature (VC), kind of surgery, complications of surgery recorded.

Results:

A total of 141 patients were included. Surgical techniques were Tubularized incised plate (TIP) uretroplasty 18(12.8%), dorsal inlay graft TIP 13 (9.2%), Onlay flap 26(18.4%), Durham Smith 56(39.7%), modified bracka 24(17%) and full Duckett 4(2.8%).

The mean age (month) of uretroplasty were 34.1±7.2 in tubularized incised plate (TIP) uretroplasty, 25±4.1 in dorsal inlay graft TIP (DIG), 32.4±6.7 for Onlay flap, Durham Smith 29.3±2.9, modified bracka 28.6±5.1 and full Duckett 36±13.9.

The onlay flap and TIP were performed in cases with chordea less than 10 degree. But other techniques were performed in cases of narrow and spongiosum-deficient plates. Urethro-cutaneous fistulas were seen in 10(55%) of TIP, 9(69%) of dorsal inlay graft TIP (DIG), 3(11%) of Onlay flap, 17(30%) of Durham Smith , 11(45%) of modified bracka and all of full Duckett.

Complete failure were seen in 2(11%) of TIP, 5(8%) of Durham Smith and 6(24%) of modified bracka. Meatal stenosis reported in 2 cases dorsal inlay graft, one case of Onlay flap, Durham Smith, and modified bracka. One caes in onlay group had sever rotation. Chordea showed in 3 cased after Smith repair that redo corrected.

Conclusions:

Proximal hypospadias remains challenging, regardless of the technique utilized for its repair. Rate of complications related to severity of chordea and length of defect. Urethrocutaneous fistulas were more commonly seen after modified bracka and Duckett repair. In proximal hypospadias with mild chordea, Onlay Flap is very safe procedure. Approximately half of the patients undergoing long TIP and DIG procedures needed reintervention, although the percentage decreased significantly with Onlay flap and smith procedure. Staged repairs, in severe cases, resulted in overall better outcomes.

Key words: Proximal hypospadias, Urethrocutaneous fistulas, Chordea

Perimeatal-based flap (Mathieu) versus tubularized incised-plate urethroplasty (TIP) in distal shaft hypospadias: our center experience

Mohajerzadeh L, Khaleghnejad Tabari A, Rouzrokh M, Mirshemirani A. R, Sadeghian N, Ghoroobi J, Izadi M, Roshanzamir F, Sarafi M, Hatefi S, Abassian A, Ghafari P

Pediatric Surgery Research Center, Shahid Beheshti University of Medial Sciences Tehran Iran

Purpose:

To compare complication rates using the tubularized incised plate (TIP) and Mathieu techniques after distal hypospadias surgery.

Patients and methods:

Between 2006 and 2015, 106 children with primary distal shaft hypospadias operated in our center. 50 patients underwent Mathieu repair (mean age 33.58±30.42 months, range 6–156) and 56 TIP procedures (mean age 33.19±25.58 months, range 3–108). The mean follow-up was 48 months.

Results:

The mean duration of urethral catheter was significantly lower for Mathieu repair than for the TIP procedure (7 vs 3days, $P = 0.02$). 13 children undergoing a Mathieu repair had complications (11 urethrocutaneous fistula and one complete failure and one case with chordea), compared with 20 TIP group (17 urethrocutaneous fistula and 2 complete failure and one case with chordea and meatal stenosis). Rate of uretrocutaneous fistula was significantly lower for Mathieu repair than for the TIP procedure (11 vs 17 cases, $P < 0.05$). The resultant meatus was slit-like in all patients undergoing the Snodgrass repair whereas those with a Mathieu repair had a rounded and horizontal meatus.

Conclusion:

The overall complication rate and duration of hospital stay and urethral catheter was lower with the Mathieu urethroplasty, But TIP had a better cosmetic outcome. The Mathiue technique is recommended as a primary treatment for distal hypospadias.

Keywords: Distal Hypospadias, Outcomes, Urethroplasty

Prepucial Island Flap for penile coverage in Hypospadias Repair Experience in 112 cases

M. Mollaeian, F. Eskandari, H. Raji, H. Pourang, M. R. Toloa,

Bahrami Children's Hospital, Tehran University of Medical Science

Abstract:

Background:

Penile coverage is a challenge after release of curvature associated with hypospadias. We have used preputial flap for this purpose. We report the results and advantages of this prospective study.

Materials and Methods:

120 patients ranging from 13 months to 12 years of age were enrolled in this study. The location of meatus was in proximal penile to subglanular and all of them had associated curvature from 10 to 40 degree. The preputial vascularized flap was created and used for covering the ventral skin defect achieved after the correction of curvature. Thede-epithelializeddartus tissue of the flap also covered the urethral suture line to prevent the fistula formation. The follow up period ranged from 2 months to 8 years.

Results:

All patients got noticeable skin defect after release of curvature while penis was examined at straight state. The defects were reconstructed using the flap. The flaps showed ischemic changes in 5 cases mostly in early phase of study. Twenty cases looked as prominent loose tissue on the ventral shaft on early postoperative period, which went to have a good appearance over time. Only two of the patients needed to trim the flap.

Conclusion:

Use of the preputial flap is excellent option in penile ventral skin defect after curvature release, from the point of cosmetic penile appearance and adequacy and prevention of the urethral fistula.

Key Words: Hypospadias, Reconstruction, skin

Cryocalcium Glue in Hypospadias Surgery

Mehrdad Hosseinpour(1), Mohadese Hamsayeh(2), Sanaz Etezazian(1)

(1): Department of Pediatric Surgery, Imam Hossein Children Hospital, Isfahan, IRAN
(2): Shahid Beheshti Hospital, Kashan , IRAN

Background:

Urethrocutaneous fistulas are the most common late complication of hypospadias repair .Clinical and experimental experiences suggests that fibrin glue prevents urinary extra-vasation from urological surgical anastomosis, but sealant is commercially inaccessible and very expensive in some of under-development or developing countries. In this study, we tried to introduce a new formulation of glue.

Methods:

We prospectively included patients with distal hypospadias that reffered to our center for operation. Hypospadias repair performed by tabularized incised plate urethroplasty (TIPS). Cryocalcium glue preparation was applied over the closure area, and ventral dartos flap was brought over it. On the follow up visit, the patients evaluated for fistula formation and urethral calibration. A successful operation was defined as no fistula formation during the first 6 months of operation.

Results:

In this study, a total of 400 children (100 as control and 300 as case) were evaluated. The mean length of reconstructed urethra was 18.12±4.18 mm in case group and 16.17±3.74 mm in control group (P= NS). Urethro - cotaneous fistula was occurred in 5 patients of case group and 6 patients in control group (1.6% vs 6%, P=0.001). We have no allergic reaction in case group

Conclusions:

Cryoclcioum glue used to reinforce urethraplasty anastomosis in children with hypospadias appears to be a safe and inexpensive alternative for fibrin to reduce the risk of post operative fistula formation

Pain management after surgery among patients with hypospadias

Saeid Aslan Abadi[1], Mohammad Amin Rezazadeh Saatlou[2], Davoud Badebarin[1]

1: Pediatric Research Center, Tabriz University of Medical Sciences, Tabriz, Eastern Azerbaijan, IRAN.
2: Tuberculosis and Lung Disease Research Center, Tabriz University of Medical Sciences, Tabriz, Eastern Azerbaijan, IRAN.

Hypospadias is known as a common congenital problem of male genitalia occurred due to the hypoplasia of the ventral tissues with different degrees of malformation. Its incidence rate was reported to be around 1 in 300 male births. Resent epidemiological studies revealed that there is an increasing incidence of Hypospadias among Western developed countries and it was mentioned near 4 in 500 male childeren. Genetic and environmental factors are influencing its process.

Surgery is its only therapeutic treatment in this regard. According to the 300 different described operation methods it can be concluded that treatment has not been perfected or standardized, yet. But Successful repair can be achieved in the majority of patients. However, this leaves a small number of patients with poor surgical outcomes. Those unfortunate few case face physical scarring with abnormal genitalia which requires repeating surgeries, and also have trouble voiding normally and also may have a poor cosmetic result. Patients with hypospadias may also have difficulty with sexuality and developing normal relationships. Accordingly, And the goal for treatment for these patients is to reconstruct a straight penile shaft with its external urethral meatus as similar as possible to the normal position, in order to provide normal urination and even normal penetration.

And related complication rate were reported from 14% to 61%. Continuous advances in surgical treatment provided great potential reconstruction techniques for proximal hypospadias and many tissues have been used as urethral graft substitutes when there are problems with local penile or preputial skin. Most common grafts to substitute long urethral defects are: buccal mucosa, de-epithelialized or nonhair bearing skin, posterior auricular skin, and bladder mucosa. Mucosal grafts are readily available and they make successful urethral substitutes according to surgeon preferences.

Influencing Factors affecting the timing of hypospadias repair are: environment which patient will be managed, anaesthetic risk, penile dimensions and the psychological effect of genital surgery. After the age of 6 months the risk of anaesthesia is same as older ages,

Penile size is not considered as a limiting factor in most case because the moderate penile growth occurs in the first few years of development; there is no technical advantage in delaying surgery. With a very small phallus, usage of hormonal stimulations to achieve penile enlargement is now less controversial, because initial concerns about subsequent down-regulation of androgen receptors appear to have no evidences. Testosterone enanthate (25 mg) administered intramuscularly 1 month before surgery or topical dihydrotestosterone cream, applied daily for 1 month, are both viable options.

Recommendations of the Urology Section of the American Academy of Pediatrics suggests that the optimum time for elective surgery on the genitalia is either in the second 6 months of life or sometime during the fourth year. therefore it can be concluded that the ideally practical time to correct primary hypospadias is when patients is in his age of 6-12 months.

Problems related to pain assessment are important factor in surgery especially in pediatric surgery. As in all patients with surgeries, postoperative patients require assessment of the intensity, location, and

character of their pain, an appreciation for the entire spectrum of factors that modulate the experience. In approaching a child with postoperative pain, it remains important to make a assessment and diagnosis.

Caudal epidural block is one of the most common regional anaesthetic techniques in pediatric surgeries. It is generally considered a simple and safe procedure and its main disadvantage is due to its short duration of action, even with the use of long-acting local anaesthetic agents such as bupivacaine. In order to improve the duration of action and quality of analgesia of a caudal block with bupivacaine, various drugs such as opioids, epinephrine, midazolam, neostigmine, ketamine and clonidine have been used.

Bupivacaine is a local anesthetic agent with longest duration of actio, and when its used for caudal analgesia in children in a dose of 2.0 - 2.5 mg/kg, it lasts for 2-4 h. More than 60% of children undergoing orchidopexy with this technique require further analgesia during the postoperative period. Many drugs including epinephrine, morphine, clonidine, ketamine, midazolam, and tramadol have been co-administered with caudal bupivacaine to increase duration of analgesia. Caudal morphine extends postoperative analgesia, but it may be associated with delayed respiratory depression. Caudal clonidine and midazolam have been associated with prolonged sedation. Behavioral side effects were reported with the use of the caudal ketamine, and an increased incidence of postoperative vomiting was observed with the use of caudal tramadol. The intrathecal administration of the cholinesterase inhibitor neostigmine was reported to produce analgesia in experimental animals and in acute postoperative pain in humans. Two reports have described the use of epidural neostigmine combined with local anesthetics or morphine in the management of acute postoperative and chronic cancer pain in adults. The use of neuraxial neostigmine has not been reported before in children.

All of these agents have potential side-effects. Since the discovery that epidural clonidine, an a2 receptor agonist, produces analgesia, the drug has been used widely in anaesthetic practice. During the last decades the use of clonidine has become increasingly popular in paediatric anaesthesia, particularly when administered caudally with a local anaesthetic agent. Clonidine has been shown to produce analgesia without causing significant respiratory depression after systemic, epidural or spinal administration. Although epidural clonidine may also cause hypotension, bradycardia and sedation in higher doses, serious adverse effects are uncommon in the dose range normally used in children. The a2 receptor is also a binding site for the adrenergic neurotransmitter norepinephrine. There is some evidence to suggest that clonidine's analgesic effects are more pronounced after neuroaxial administration. However, a2 receptors are widely distributed throughout the central nervous system, with three isoreceptors (a2A, a2B, a2C) recognized so far. The a2 receptors are located primarily on afferent terminals centrally and peripherally, but they are also found in the super®cial laminae of the spinal cord and within several brainstem nuclei known to be involved in analgesia. Animal studies have demonstrated analgesic action at all three sites, but so far their relative clinical importance is controversial and subject to ongoing debate.

Most popular techniquesin hypospadiasis repair

Reza Shojaeian, Mehran Hiradfar, Parisa Saeedi, Ali Azadmand, Mahdi Parvizi

Background:

hypospadias is a common congenital urogenital malformation that needs surgical repair mostly. Over 600 different surgical techniques have beeen introduced for hypospadias repair and some of them have been modified several times in the last decades while still there isn't any singletechnique as the gold standard in hypospadias treatment. Surgeons' decision is mostly regarding their personal experience and skill

Methods:

In this study we categorize different types of hypospadias in three major groups of proximal, midshaft and distal hypospadiasis. We designed a questionnaire that evaluate the subspeciality and expertise of the participants and also presented a sample in each group with pictures and explanations and ask for the participants technique of choice. We sent this form to several surgeons who wereenvolved in hypospadias surgery to evaluate popular method of hypospadias repair. We analyzed the feedbacks considering the subspeciality, country, academic level and other variables.

Results:

Among all different techniques of hypospadias repair, MAGPI, TIPS and two stage Braca technique where more popular over all. Significant diferences were observed while comparing the results regarding subespeciality, academic level and expertise.

Conclusion:

Although the most popular techniques were almost the same between different surgeons but these were differences in technical choice for management of proximal and distal hypospadiasis.

Key words: Hypospadias, Repair, Technique

Urinary dranage in different types of hypospadias surgery

Reza Shojaeian, Mehran Hiradfar, Parisa Saeedi, Ali Azadmand, Mahdi Parvizi

Background:

Urinary retention and difficult voiding are among common postoperative complications after hypospadias surgery. Although there are some suggestions roughly about using drains in different surgical techniques but there is no wildly accepted method of choice for urinary drainage after hypospadias surgery so every sugeon has his own method according his experience.

Urinary retention may be disturbing for the patient and parents, use of folley or other intra vesical drains may irritate the trigone and cause errection, balone free catheters or intra urethral drains may dislodge easily. Considering all these advantages and disadvantages, there are different concepts about urinary drainage after hypospadias repair.

Method:

We conducted a litreture review about drainage in hypospadias surgery and considering the most common methods in recent articles. We categorize different types of hypospadias in three major groups of proximal, midshaft and distal hypospadiasis. We designed a questionnaire that evaluate the subspeciality and expertise of the participants and also presented a sample in each group with pictures and explanations and ask the participants about their preferred method of urinary drainage after hypospadias repair. We sent this form to several surgeons who were envolved in hypospadias surgery to evaluate popular method of urinary drainage after hypospadias surgery. We analyzed the feedbacks considering the subspeciality, country, academic level and other variables.

Results:

The most common methods of urinary drainage after perineal and other proximal hypospadias reconstruction was double drainage with cystostomy and intra vesical catheter. Most surgeons prefered intravesical baloone free catheter for urinary drainage after midshaft hypospadias repair. There was contraversy on whether use of intravesical baloone free catheter or transurethral stent or no drainage after distal hypospadias repair.

Keywords: Hypospadiasis, surgery, drain

Skin and Flap Necrosis in Staged Hypospadias Repair

Alireza Mirshemirani, Mehdi Sarafi

Pediatric Surgery Research Center, Shahid Beheshti University of Medial Sciences Tehran, Iran

Abstract

Complications in hypospadias surgery are various however penile skin or flap necrosis is rarely seen. Ischemia of the flap or graft is a major complication in two stage repair of hypospadias. A 2-year old boy diagnosed case of proximal penile hypospadias, operated initially for chordee correction and urethral plate formation with a preputial flap, presented for stage 2 hypospadias repair. Ten days after tabularization of urethral plate, the patient developed skin and flap necrosis. Early debridement was carried out under general anesthesia followed by coverage with scrotal flaps.

Keywords: Hypospadias, Flap necrosis, Complication, Manage

Ventral Z-plasty for circumcised distal penile hypospadias

Farid Eskandari M.D., Houshang Pourang M.D., Mansoor Mollaeian M.D.,
Mohammad Reza Tolue M.D., Donya Sadid M.D.

Department of Pediatric Surgery, Bahrami Children's Hospital, Tehran University of Medical Science, Tehran, Iran

Abstract

Routine circumcision of infants is practiced in Islamic countries on religious grounds. It is sometimes done within 6 weeks, preferably by the end of the first week after birth. Minimal to moderate hypospadias with deficient ventral prepuce and exposed glans is not usually recognised by parents as a congenital deformity. It is the belief that these children are born circumcised (“angel’s” circumcision) and the postnatal circumcision is done to complete religious rites and to achieve better aesthetic appearance. Single stage repair of hypospadias with chordee presents a difficult challenge for the surgeon, and the added previous circumcision makes it worse, because of skin deficiency for coverage.

We have carried out a single stage repair using a Z-plasty at the ventral surface of the penis in circumcised distal penile hypospadias patients with chordee.

Assessment the results of Onlay flap versus Durham Smith in proximal hypospadias

Leily Mohajerzadeh, Ahmad Khaleghnejad Tabari, Haleh Noroozi, Saran Lotfollahzadeh, Khashayar Atqiaee

Pediatric Surgery Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Abstract

Background:

The onlay island flap urethroplasty was first described in the repair of mid and distal penile hypospadias. Since then, this technique has been increasingly used in more severe cases of hypospadias, because of the complications of two-stage Durham smith, mainly mega urethra and proximal anastomotic strictures. The aim of this study was to compare the outcome of these two techniques.

Methods:

This study was an analytic retrospective study. Thirty -three patients underwent surgical treatment for hypospadias. Two stages Durham smith performed in 17 cases and the onlay island flap technique used in 16 patients. The data entered in SPSS software version 21 and compared the complication rate in two procedures.

Results:

Altogether, frequency of complications was higher in smith technique than onlay flap procedure without any significant difference between the two techniques (47% for Smith technique and 19% for onlay repair; P=0.141). Fistula was the most frequent complication in two techniques (41% for Smith technique and 13% for onlay repair; P=0.117). The meatoplasty done for meatal stricture in the smith group. Moreover, smith technique was complete failure in one case who had undertaken Tabularized Inside-Plate (TIP). There was one case of chordee recurrence in smith technique that a dorsal Nesbit plication also was necessary. The mean days of hospitalization was more than smith technique (7.1 days vs 5.0, P=0.016). In addition, the mean of reoperation was higher in smith than onlay flap (1.0 vs 0.2, P=0.025).

Conclusions:

The results of this study showed that that onlay flap technique had lower complications and reoperation than two-stage smith technique. In addition, onlay flap technique has fewer days of hospitalization than smith technique, resulting in lower costs to the health system and patients.

Key words: Onlay island flap, two-stage Durham smith, Proximal Hypospadias, complications

Is urethroplasty safe in the 6 month of life?

Dr Seyed Soheil Ben Razavi

Pediatric surgeon, Tehran Azad Medical University

In this study during a period of two years, uerthroplasty in mid shaft hypospadis without chordea was compared between two age groups of 20 babies with similar characterizes but different ages:

Group A: 6 month old babies (10 members)

Group B: 12-16 month old babies (10 members)

The techniques, materials, urinary diversions, dressing and demonstrated better shape, lower fistula rates, lower infection rate, better hospital course and post hospital conditions in group B.

So might this study indicate that surgical interventions for hypopadis are safer after one year of age?

Effect of caudal block on intraoperative vital signs (BP, HR) and recovery time in patients undergoing hypospadiasis repair

[1]Hajieh Hoseinpour Nourani, [2]Daryoush Sheikhzadeh, [3]Rahimeh Balkani

1 Registered nurse of anesthesia and member of research committee of Tabriz medical sciences university
2 Assistant professor of anesthesiology, Tabriz medical sciences university
3 Anesthesia technicians, Tabriz children's hospital

Introduction:

Does caudal block change intraoperative BP, HR and recovery time in patients undergoing hypospadiasis repair?

Method:

Fifty patients aged 2-4 years old undergoing hypospadiasis repair in Tabriz childrens hospital during the year 1395 were assigned randomly into 2 groups. In first group, caudal block was carried out with 0.2% bupivacaine (1 cc/kg) while in patients of second group no block was performed.

Results:

BP and HR were lower and recovery time was shorter in patients who had received caudal block. No significant side effect related to caudal block was seen.

Conclusion:

Caudal block in hypospadiasis repair results in lower intraoperative BP and HR and shortens recovery time.

Nursing points in Treatment for hypospadias

Ashraf Memarizadeh

Department, Institute, Town, Country (Nemazee Hospital ،Shiraz university of Medical Sciences)

Back Ground:

Hypospediasiss are congenital anomalies involving abnormal location of the urethral meatus in males. In both cases, the urethral folds fail to fuse completely over the urethral groove.

In hypospadias, the urethral opining is located in any area on the ventral or undersurface of the penile shaft, and in sever cases in the scrotum. Congenital urethral defect, pect of the peni Uretheral opening on VENTRAL (lower) aspect of the penis The defects are corrected through surgical repair, during the first year of life. Give antibiotic until the stent fall out, not to circumcision the child.

Methods:

Treatment for hypospadias:

Pre-op management

DO NOT circumcise infant; may need the foreskin for reconstruction Surgery: reconstructive to reposition the meatus at the tip usually done before one year of age.

Nursing managements:

Nurses should approach them properly for gaining their trust and then take care of them.

Parents are the only persons who the children trust, so it is important for nurses to collaborate with them for achieving a better quality of care for their patients.

Teaching the parents preoperatively to relive their anxiety Postoperatively.

Post-op management:

1-child is received with simple dressing and stent in the new urethral opining to keep it open, child's bandage may soak off in the bathtub. If not, you need to take it off within 2 days (48 hours) after surgery.

2- Few blood is seen soon after surgery. But the urine will be more clear after that

3- Encourage fluid intake to maintain adequate urinary output & patency of the stent. Notify the doctor if no urine drainer for one hour.

4- Give analgesia as ordered (ibuprofen) to control the pain.

Use double diaper: one to collect stool and another to collect urine by catheter.

Restrain the child activity, so stent or catheter stay in place. No play on straddle toys

In some cases a suprapubic catheter is inserted to provide an alternative route for urination.

5- Ensure parent education about all catheters inserted. Care of the catheter (may be foley, suprapubic or urethral stent.

6- Management of bladder spasms

7- Prophylactic abx

8- No bath until stent removed

9- Call physician for temp > 101

10- While child is less active and recovering &Codeine and other medicines may cause child to have constipation this can cause pain. Drinking lots of water will help. Child should also eat foods that have lots of fibre. These include whole grain breads and fresh fruits. These foods will prevent constipation

11-child will need 2 follow-up appointments

Anterior Hypospadias

Emilio Merlini F.E.A.P.U.

Anterior hypospadias represent about 75% of all hypospadias. They are further divided into: Glanular, Coronal, Subcoronal, Anterior penile. As I rule, I treat all hypospadias from coronal to more proximal, glanular hypospadias are operated only when expressely required by parents or when the urine flow is deflected downwards. The elements that comprise a hypospadias requiring correction are the position of the meatus, the glans, the foreskin and, in many cases the ventral curvature of the penis. In most anterior hypospadias curvature is due to a short ventral skin and is then treated with anterior sliding of the foreskin during the repair. Another rare occurrence is a small glans that may make repair difficult and can be treated either with hormonal pretreatment or surgical technique must be changed accordingly, but this is rare in anterior hypospadias. I use a simple algorithm to decide which type of repair to use in any single case: if the distance between meatus and the tip of the glans is minimal I use the MAGPI as described by Duckett or the Beck-Koff -Atala procedure of complete urethral mobilization. I use MAGPI, or more recently the SnodPI modification when: glans is globular, spongiosum has no proximal division and there is no or minimal penile curvature amenable to treatment with skin transposition. The procedure includes a Heinecke -Mickulicz type of meatal advancement, glanuloplasty and, generally, circumcision or, if required by parents foreskin reconstruction. Snodpi means the inclusion of Snodgrass principle of hinging the urethral plate and leave it open without transverse suturing. This modification has the great advantage of producing no flattening of the glans and therefore is useful in those glans that have a median groove, that is a contraindication for classical MAGPI.

When the distance to be bridged is a little more, the glans has a pronounced groove and the urethra is surrounded by a well developed spongiosum, I like to use the Koff - Atala modification of the old Beck mobilization of the entire urethra. The procedure consists in isolating the all urethra with its spongiosum, isolation should be carried out for a distance that is at least five times the distance to be bridged. Then the glans is split, the urethral meatus is spatulated and the urethra is inserted deeply in the glans and secured with multiple suture to the spongiosum of the glans.

When hypospadias is coronal or more proximal and a segment of new urethra need to be constructed, I use the TIP procedure as described by Snodgrass and for even more proximal hypospadias I found useful to graft the hinged plate with a free graft of prepuce (Snod-graft as described by Malone).

The procedure includes the tubularization of the urethral plate and is so widely used that there is no need to describe in details. Some tips should, nevertheless, be mentioned: the incision of the plate should not be carried up to the tip of the glans in order to avoid meatal stenosis. The new urethral meatus should have an elliptical rather than a round shape. The new urethra must be covered with a well vascularized layer of tissue like preputial dartos or testicular tunica vaginalis. There is no evidence that urine drainage with a catheter or postoperative dressing make any difference in results, nevertheless I prefer to keep a catheter in the urethra in both Koff and Tip repair. Magpi's are unstented if the child is still in diapers, otherwise a catheter is kept 24 hrs. to avoid urinary retention in older children. This type of surgery can be done as a day-case or require a one night stay in hospital.

Complication rate is low for glanular hypospadias, it rises around 5-8% for TIP repair and increases further sharply if TIP repair is used for more proximal repairs.

Updates in Disorders of sexual development

Dr Marjan Shakiba

Key note lecture in surgery of Disorders of Sex Development

Dr Seyed Javad Nasiri

A review on androgen insensitivity syndrome diagnosis and management

Maryam Ghavami Adel

Associate Professor of Pediatric Surgery, Tehran University of medical Sciences

Abstract

In infancy, complete androgen insensitivity syndrome presents as an inguinal hernia or labial swelling containing a testis in an apparently female infant. Bilateral inguinal herniae are rare in female infants -the incidence of complete androgen insensitivity syndrome in such patients is 1–2% during infancy.

Clinicians recommend that karyotyping or a biopsy of a gonad within the hernial sac is done after the parents give consent.

Management of androgen insensitivity syndrome should address functional, sexual, and psychological issues such as disclosure, gonadectomy and subsequent hormone replacement, creation of a functional vagina, and provision of genetic advice. Care needs to be individualized, flexible, and holistic.

Management is dependent wholly on a multidisciplinary team.

A clear and uniform approach to the differential diagnosis of the causes of disorders of sex development is essential for initial management. In androgen insensitivity syndrome, management issues vary according to age of presentation and whether the phenotype is for complete or partial disease.

Case report of a rare disorder of sex development

Bahar Ashjaei

Tehran University of Medical Sciences, Department of pediatric surgery

Introduction:

Disorders of sexual differentiation DSD include a broad clinical spectrum of hormonal, metabolic and chromosomal abnormalities resulting in abnormal genital development. DSD management is one of the most challenging problems in pediatric medicine and pediatric surgery.

Case Report:

A 18 months infant was reffered to our hospital due to incarcerated inguinal hernia.

The infant's phenotype was male. He had incarcerated inguinal hernia in right side. Scrotum was empty in bilateral palpation. Penis had normal appearance at inspection without hypospadias or any other abnormalities. Our primary diagnosis was bilateral undesened testis which was complicated by incarcerated inguinal hernia.

The patient prepared for incarcerated inguinal hernia operation. We started the operation by a right inguinal incision. We found an icacarcerated bowel in inguinal canal which was viable therefor we turned it back to the abdominal cavity and searched for the undesended tesis. An abdominal tesis was found in right side which was attached to a fibrotic orgun like uterous and at the left side of this organ the left gonad was attached.

We took 3 biopsies of these 3 organs, two gonads and fibrotic tissue which was like uterous , and turned them to abdominal cavity.

The result of chromosomal study after surgery was 46XY ang two gonads were testis and the uterous like organ was fibrotic tissue.

At the time of second operation we cut the fibrotic tissue between the testis for ability to desnd the two tesis into the scrotum.

Conclusion:

If we have any doubt at the time of operation on DSD we must confirm our diagnosis by pathologic and chromosomal evaluation.

In this special case we must have a closed observation on the patient because of the risk of malignancy.

Persistent mullerianduct syndrome and right side undescended testis

Hamidreza Foroutan, Ali Tadayon, Ali Ghaeinei

Department of Pediatric Surgery, Nemazee Hospital, Shiraz University Of Medical Sciences, Shiraz, Iran

Persistent mullerian duct syndrome (PMDS) and right side undescended testis were found in a 1.9 y/o boy with normal karyotype (46, XY) who presented with ambiguous genitalia. In a laparoscopic evaluation of sex organs, left side hamiuterus, fallopian tube, ovary and fimberia as well as, right side testicular vessels, vas deferens and undescended testis stuck in right inguinal canal were found. Because of close vicinity of uterus to the vas deferens and testicular vessels and bladder neck, hysterectomy was avoided. In spite, right side orchiopexy and herniotomy were performed for patient. According to this case, laparoscopic abdominal exploration may be justified in ambiguous genitalia cases with undescended testis to exclude the possibility of persistent mullerianduct syndrome.

Application of Intra-operative sonographic technique for sinus urogenitalis reconstruction (Vaginaplasty and Urethraplasty)

Marjan Joodi, Ali Alamdaran, Ahmad Mohammadipour, Mahdi Parvizi, Ali Azadmand, Farideh Jamali-Behnam

Background:

Congenital adrenal hyperplasia (CAH) is the commonest cause of ambiguous genitalia in the newborn with an incidence of approximately 1 per 14,000 live births. Sinus urogenitalis is known as one of the controversial pediatric surgeries. The aim of whole surgical corrections is the creation of normal appearance of vagina and urethra. The conventional applied procedure to treat the disease is open surgery and direct observation. In this study, intraoperative sonography was conducted to determine accurate location of vagina, urethra, bladder sphingter, and sinus urogenitalis and the surgery was planned based on sonography data.

Method:

After parents had filled the consent form, 3 girls under two years old with sinus urogenitalis were included in the stud assessed under anesthesia by a pediatric surgeon and a radiologist with considerable experience. The children were placed in lithotomy position. The location of vagina and urethra were identified by sonography and then wire inserted. Dilatator passed through wire under sonography guidance to determine the suitable size for vagina and urethra. After that it was grasped by vagina and urethra grasper. Next, fistula was cut and advanced mucocutaneous flap was applied to reconstruct vagina and urethra. The effectiveness of therapy was evaluated in 1, 3, and 6 months intervals.

Result:

Patients have minimal surgical scar in vagina and urethra. The function of vagina and urethra was satisfactory. During follow-up, no complication was observed.

Conclusion:

Intra-operative sonography is a safe technique for surgical treatment of sinus urogenitalis. It is a minimally invasive approach, which reconstructs the vagina and sinus urogenitalis with acceptable function.

Surgical outcomes in patients with Disorders of Sex Development in Mofid Children's Hospital, 2001-2014

Khaleghnejad Tabari A. Rouzrokh M. Mohajerzadeh L. Lotfollahzadeh S.

Shakiba M. Sanee Far H. Salehpour Sh. Alaee M. Abassian A. Poorhasan S.

Pediatric Surgery Research Center, Shahid Beheshti University of Medial Sciences Tehran Iran

Abstract:

Background:

Disorders of Sex Development is a common childhood and infantile anomaly affecting not only the somatic growth; but also leading to stress and anxiety among parents who are seeking optimal treatments. Accordingly in this study the surgical outcomes in patients with ambiguous genitalia in Mofid Children's Hospital since 2001 to 2014 were determined.

Materials and methods:

In this case series study 73 consecutive children with ambigous genitalia in Mofid Children's Hospital since 2001 to 2014 were enrolled with census manner. Data were gathered by existing medical documents and were recorded in prepared checklist. The surgical outcomes were assessed with interview and clinical examination after announcement by hospital. The frequency rate of success and complications were determined by group of surgeons examination and compared according to other variables.

Results:

Sixty patients (82.2%) had no surgical complications. All patients had good conditions at discharge and no mortality was seen. In a sole Testicular Feminization case (1.4%) who was elucidated to be affected by the regarding anomaly, pullthrough colovaginoplasty was undertaken. Except tow cases, others didn't reach to marriage age and are still teenager, and 22 cases future reoperation is palnned (30.13%). However in 12 patients (16.4%) the follow-up was incomplete.

Conclusion:

Totally according to our findings it may be concluded that surgical outcomes in cases of ambiguous genitalia are relatively good and satisfactory. However long-term follow-up study is required to determine the final outcomes especially for marital and sexual issues.

Key words: Disorders of Sex Development, Surgery, Outcomes

A review on planning and timing the surgical reconstruction for female gender assignment on urogenital sinus anomalies and DSD

Fariba Jahangiri, Seyed Javad Nasiri, Mojtaba Moosavi Khoshdel

Aliasghar Children Hospital, Tehran, Iran

Abstract:

The newborn with abnormal genital development presents a difficult diagnostic and treatment challenge for the pediatric surgeon providing care. Gender assignment to a neonate with ambiguous genitalia is crucial. An early diagnosis is desirable to correct adequately vaginal malformations, which becomes mostly evident around puberty.

Approximately one in 2000 children globally is born with an intersex condition. There is unfortunately a relative paucity of data on the choices and the surgical and psychosocial outcomes in patients who undergo genital surgery for intersex conditions and ambiguous genitalia.

The surgical management of ambiguous genitalia has always been difficult, and it must be performed by skilled pediatric surgeon.

Controversy exists on the necessity for and timing of genitoplasty in girls with congenital adrenal hyperplasia and DSD.

Some surgeons' believe that genital surgery in infancy revealing poor outcome and in patients who underwent feminizing genitoplasty, vaginal reconstruction should be delayed until adolescence to achieve better cosmetic and functional results.

Some authors have suggested delaying surgery until the child becomes competent to make her own decisions.

Some believe that the better timing for surgery is early age, to obtain better results and to avoid many of the psychological problems that arise at a later age.

Flap vaginoplasty and Pull-through vaginoplasty was used in children with distal vaginal atresia and proximal urethrovaginal fistula (type III). Patients with absence of the vagina (type IV) required segmental colon vaginoplasty and some consider ileal loop as a good alternative.

Some believe that the preferable technique for vaginal replacement is the use of intestinal conduit.

We review Long-term outcome of vaginal reconstruction with Comparing techniques and timing.

Ambiguous Genitalia

Mahmoud Ashrafi MD

Professor of Pediatric Surgery

Definition:

Ambiguous genitalia is a birth defect where the outer genitalia do not have the typical appearance of either a boy or a girl.

Considerations:

The genetic sex of a child is determined at conception. The mother's egg cell (ovum) contains an Xchromosome, while the father's sperm cell contains either and a X or a Y chromosome determine the child's genetic sex.

Normally an infant inherits one pair of sex chromosomes-one X from the mother and one X or a Y from the father. The father "determaines" the genetic sex of the child. A baby who inherits the X chromosome from the father is a genetic female (two X chromosomes). A baby who inherits the Y chromosome from the father is a genetic male (one X and one Y chromosome).The male and female reproductive organs and genitals both come from the same tissue in the fetus.

If the process that causes this fetal tissue to become "Male" or "female" is disrupted, ambiguous genitalia can develop. The genitalia make it difficult to easily identify the infant as Male or Female.

The extent of the ambiguity varies, in very rare instances; the physical appearance may be fully developed as the opposite of the genetic sex. For example, a genetic male may have developed the appearance of a normal female typically, ambiguous genitalia is genetic female (baby is with two X chromosome) has the following features:

An enlarged clitoris that looks like a small penis.

The urethral opening (where urine comes out) can be any where-along, above, or below the surface of the clitoris.

The labia may be fused look like a scrotum.

The infant may be thought to be a male with undescended testis.

Sometimes a lump of tissue is felt within the fused labia, further making it look like a scrotum with testis. In a gender male (one X and one Y chromosome) ambiguous genitalia usually include the following features:

A small penis (less than 2-3 centimeter) that looks like enlarged clitoris (the clitoris of a newborn female is normally somewhat enlarged at birth). It can be located as low as on the perineum, further making the infant appear to be female.

There may be a small scrothum that is separated and looks like labia, undescended testicles commonly occur with ambiguous genitalia is usually not life threatening (see causes section for exceptions), but it can create social problems for the child and family. For this reason, A team of experienced specialist, including neonatologist, geneticist, endocrinologist, psychiatrists or social workers will be involved in the child care.

Causes:

Pseudohermaphroditism. The genitalia are of one sex, but some physical characteristics of the other sex are present.

True hermaphroditism. This is a very rare condition, in which tissue from both the ovaries and testicles is present. The child may have parts of both Male and Female genitals.

Maxed gonadal dysgenesis. This is an intersex condition, in which there are some male structures (gonad, testis), as well as Uterus, Vagina and fallopian tubes.

Congenital Adrenal Hyperplasia (CAH). This condition has several forms, but the most common form causes the genetic female to appear male.

Chromosomal abnormalities, including Klinefelter's syndrome (XXY) and turner's syndrome (XO).

If the mother takes certain medications (such as androgenic, steroid) they may make a genetic female look more male.

Lack of production of certain hormones can cause the embryo to develop with a female body type, regardless of genetic sex.

Physical exam:

Notable features include: Phallic size, symmetry of external genitalia, presence and location of palpable gonads, and presence of additional anomalies.

Palpable gonads: Imply the presence of Y-chromosome material.

Labial fusion: Measurement of the anogenital ratio (distance from anus to posterior fourchette divided by distance from anus to base of phallus) If > 0.5 this suggests virilization with posterior labial fusion.

Presence of a vagina

Position of the urethra

Length and diameter of penis/clitoris: Stretched penile length at term usually >2.5 cm. Clitoral length is usually <1 cm.

Development of the scrotum:

Asymetry of external genitalia: Suggests ovotesticular or 45X/46XY DSDs.

Other dysmorphic features:

Hypertension is seen with 17 - hydroxylase and 11 hydroxylase deficiencies.

Features of the classic disorders of adrenal steroidogenesis.

Diagnostic tests and interpretation.

Lab:

Initial evaluation should be targeted to help with sex assignment and assessmentof gonadal and adrenal steroids. A 1st line investigation including the following:

Karyotype, or Fluoresence insitu hybridization (FISH) (X and Y-specific probes) Measurement of 17 a hydroxyl progesterone (17OHP), testosterone, antimullerian hormone (AMH)

(Reliable indicator of testicular tissue), and serum electrolytes.

Second line investigations depend on the karyotype, the presence of palpable gonads, and the 17oHP levels. These can be ordered after the 1st- line tests or ordered simultaneously, depending on the clinical situation.

Karyotype is 46XX and non palpable gonads:

Most commonly due to CAH

Karyotype is 47XXY: investigations include tests to determine if tests are present and capable of producing normal levels of androgens:

LH, FSH, Mullerian- inhibiting substance (MIS) T and DHT, HCG stimulation

Persistent Mullerian duct syndrome with Bilateral UDT, A Case Report

Farid Eskandari M.D., Houshang Pourang M.D., Mansoor MollaeianM.D., Donya Sadid M.D., Mohammad Reza Tolue M.D.

Department of Pediatric Surgery, Bahrami Children's Hospital, Tehran University of Medical Science, Tehran, Iran

Abstract:

Persistent Mullerian duct syndrome (PMDS), caused by the failure of regression of the Mullerian duct structures. This is a rare form of male pseudohermaphrodism, characterized by the presence of a uterus and fallopian tubes, in phenotypically and genotypically normal males.

Our patient was a 1.5 years old boy presented with bilateral undescending testis since birth and he was noted to have bilateral cryptorchidism with nonpalpable testis at the right side and a groin testis and at the left. He underwent laparoscopic abdominal exploration. He was founded with fetal uterus structure and two gonads with ovotesticular appearance and a structure like vas deferens in the left side, and an ovarian tube at the right. We decided to do a kind of orchiopexy after the result of bilateral gonadal biopsy was reported as testicular tissue despite dysplasia.

Concomitant urethroplasty in the first stage repair of proximal hypospadiasis with severe cordee

1. Dr. Halim Berdi Taneh, 2. Dr. Aashora Sardast, 3. Soheyla Kalantari, 3. Maryam Chehregosha

1. Department of Pediatric Surgery Taleghani hospital, Golestan University of Medical Sciences, Gorgan, Iran
2. Resident of Pediateric, Taleghani hospital, Golestan University of Medical Sciences, Gorgan, Iran
3. Department of surgical technology, faculty at Paramedical sciences, Golestan University of Medical Sciences, Gorgan, Iran

Back Gournd:

Hypospadiasis most common congenital abnormalities of the genitourinary system with a prevalence of 1 case per 300 live births. Choice of technique for proximal hypospadiasis repair is largely determined by the extent of VC after degloving. Carvature greater than 30 degree resulting in transection of the urethral plate for straightening limits urethroplasty options to single stage tubulorized preputial flaps or two stage preputial graft repair. The aim of this study was to report 12 cases of proximal hypospadiasis healing experience with a strong cord with partial urethroplasty in the first step.

Methods:

This study is descriptive and retrospective on 12 cases of proximal hypospadiasis repair surgery with severe cord with partial urethroplasty in the first stage (2013-2016) in Taleghani Pediatrics center of Gorgan. Possible complications of hypospadiasis surgery were evaluated in these patients. In this novel technique, patients with proximal hypospadiasis with a strong cord, was candidate for two-stage repair urethroplasty.

Surgical Technique:

The dorsal line for incision extends to corona approximately 3mm proximally preserving most of the inner prepuce for use to make urethral plate. Urethral plate transection is done distally at corona level. Ventrally the incision runs in a U shape alongside the plate to make partial neourethra at first stage. The penis is degloved to the prepubic and penoscrotal junction. All ventral dartus and scrotal attachments are dissected off the penis. After make neourethra around urinary catheter the graft or dorsal inner prepuce is placed into the ventral defect then 6month later we do second stage braca with making shorter neourethra and with less tortosity.

Results and Conclusions:

We did this technique for 12 patients with proximal hypospadiasis with severe cord that we had to do two stage braca. Age of Children were reported between 15-9 months, with an average age of 12±1.5 months in the first stage of surgery. With this teqnique we make shorter neourethra in second stage that resulting less tortosity and less complications as fistul and stenosis.

Keywords: Hypospadiasis, Avrtrv plasty partial, Pediatric Surgery

Buried Penis in children

The use of inner preputial flapfor Reconstruction of penile Coverage, experience in 8 cases

M Mollaeian, F Eskandari, H Raji

Bahrami Children's Hospital, Tehran University of Medical Science

Purpose:

The buried penis is defined as a phallus of normal size concealed in prepubic tissue. The existent penile skin is small and short. This size of skin is insufficient for coverage of corrected and unburied penile shaft. We use the inner prepuce as a vascularized flap for achieving thiscoverage with acceptable cosmetic and functional results.

Materials and Methods:

Eight children with congenital buried penis surgically treated since March 2014 to Dec 2016 using inner prepuce as a vascularized flap for coverage of the ventral surface of the penis. Their ages ranged from 2 to 6 years. The dartus of penile skin was sutured to the corpus cavernosa bilaterally in the base for fixation. The compressive dressing was applied for all cases for one week postoperatively.

Results:

Cosmetic improvement was noted in all cases. Appearance of all penises was near normal from the points of length and size and cylindrical coverage. Surgical complications including infection and hematoma and ischemia and dehiscence were not occurred in these patients.

Conclusion:

Use of inner prepuce to achieve cylindrical and complete penile coverage in reconstruction of congenital buried penis has fairly excellent results on both cosmetic and functional aspects.

The Status of Circumcision in Iran, the Pediatric Surgeon Perspective: The Discourse

M Mollaeian, F Eskandari, H Pourang, D Sadid

Bahrami Children's Hospital, Tehran University of Medical Science

Aim of the Study:

The precise amount of foreskin to be removed in male circumcision has not been defined in medical literature. There continues to be considerable variation in opinion as to what constitutes an acceptable circumcision. Penile skin loss in various amount is common nationwide in Iran and this disaster not only leads to unsightly genitalia, but it also potentially affects the quality of sexual intercourse. The aim of this study is to highlight this complication and how to prevent it.

Methods:

In this study, we assessed the general appearance and the retained penile skin in 95 circumcised boysnationwide who visited or operated for various surgical problems in our clinic. Our criterion for a proper circumcision is to remove only the distal foreskin in order to achieve uncovered glans whilst penile shaft skin is preserved adequately. We compared the amount of penile skin retained after circumcision in these 95 patients against the circumcisions which are performed in our clinic. We then categorized these cases into three groups: 1) cripple (, 2) Unfavorable, and 3) favorable

Results:

A total of 95 circumcised boys were included in this study. 37 cases (39%) fall into the first category, 39 cases (41%) fall into the second category, and 18 cases (19%) fall into the third category. The mean age of the boys at the time of circumcision was six months. We found that 79 (83%) of the circumcisions were performed by plastibell and 16 (17%) were performed by surgery. 45 (47%) of the circumcisions were performed as out-patients, and the remaining 50 (53%) were performed in the hospital using local anesthesia.

Conclusion:

Iatrogenic permanent penile skin loss is a common complication of male circumcision in Iran. The procedure is often performed by inexperienced or poorly trained practitioners. As a whole the condition in which the infant boys are circumcised nationwide is not acceptable from the various aspects of surgical principles and more important the practitioners are not well trained in this field. It is fair to assume that a great number of men in categories (1) and (2) will suffer from poor penile function and small appearing penis and finally the self-esteem throughout their entire life.

Complete Duplicated Epispadic Urethra: A Case Report

Nazem M

Associate Professor in Pediatric Surgery, Isfahan University of Medical Sciences, Isfahan, Iran

Introduction:

Urethral duplication is a rare congenital anomaly with variable symptoms. The actual mechanism of the disease is still unknown. Most of the patients are diagnosed at childhood with double urinary streams or urinary dribbling. Epispadias is a penis malformation in which the urethra ends to the upper aspect (the dorsum) of the penis.

Case Presentation:

A 7-month old boy was brought to emergency room with chief complaint of double stream urination. Patient has no history of urinary tract infection or incontinence. He is first sibling in family and born through vaginal delivery (Birth Body Weight: 3500gr), without any history of admission to hospital. All physical examinations are normal but genitalia, with dorsal urethral opening on penis. He is transferred to operating room and Cystourethroscopy of both orifices was done. Both of orifices were connected to bladder but the posterior urethral opening was complete. Through the operation the anterior urethra was resected and epispadias was repaired and fixed. Finally, patient discharged healthfully with Foley catheter fixed.

Conclusion:

Urethral duplication and epispadias are two of rare anomalies in young children if left untreated could lead to severe complications. The complications include recurrent urinary tract infection and also urinary incontinence. To repair and fix the duplication it is necessary to undergo cystouretroscopy of both orifices; making a good decision to excise which of the urethras (more complete one) is vital.

Key words: Complete Urethral Duplication, Epispadias, Case Report

Complete Urethral duplication in children: Case report and review of literature

Alireza Mirshemirani MD; Javad Ghoroubi MD; Fatollah Roshanzamir MD;

Alireza Mahdavi MD; Mehdi Sarafi MD

Pediatric Surgery Research Center, Shahid Beheshti University of Medial Sciences Tehran Iran

Abstract

Urethral Duplication (UD) is a rare congenital anomaly, which has multiple anatomical variants. In this article we present a four year-old child with complete UD. The patient admitted for hypospadiac repair, but in evaluation we found type IIA1 UD according to Effmann classification. Patient underwent hypospadiac repair with saving complete UD, and he has normal and continent urination after one year follow-up.

Key words: Complete urethral duplication, Effman classification, IIA1 type,

A review of reconstructive surgery hypospadiasis

Kafiye Aslani[1], Elham Keyhaniazar[2], Zahra Golizadeh[3], Pedram Vahedi[4], Shirin Azadi[3],

Elahe Seyed Rasooly[5]

1. Children's surgical ward nurse. 2. Health Community Nursing Graduate Student and Tabriz Nursing Faculty Research Committee. 3. Nursing graduate student and member of the Research Committee of Tabriz University of Medical Sciences. 4. Nursing student and Tabriz Nursing Faculty Research Committee. 5. Faculty of Nursing, Tabriz University of Medical Sciences, Tabriz, Iran

Abstract:

Introduction:

Hypospadiasis of the most common congenital malformation of the genitourinary system and the prevalence of 1 case per 300 live births. The disorder is treated with surgical reconstruction. Iran and the world in multiple surgeries to repair hypospadiasis methods are employed. The aim of this study was to review the operations of these methods is hypospadiasis and review.

Methods:

The review of the literature between 1970 and 2016 with a focus on hypospadiasis, reconstructive surgery in databases scholar google, pubmed, chochran, sid and search magiran that several approaches were examined in this study.

Results:

Durham (1973) in a study entitled "Technique de-epithelialised overlap flap in repairing hypospadiasis "pant over vest and techniques used in this method of skin de-epithelized has used the Tyvyvrtra. The findings of Tabassi et al (1391) under restoration hypospadiasis - the tunica vaginalis flap was compared to the buccal mucosa showed double Dartvs supported flap was using buccal mucosa supported with a second layer of a double flap Dartvs safe procedure with a high success in treatment is hypospadiasis.

Conclusion:

Given the importance of reconstructive surgery in the area hypospadiasis, several techniques have been evaluated for surgery. It seems that the importance and priority techniques implemented research is needed; an appropriate surgical technique with minimal complications after surgery, surgeons used is based on research done.

Key words: Hypospadiasis, reconstructive surgery

Transverse Testicular Ectopia

S. Abbas Banani, Hamidreza Foroutan, Ali Tadayon, Ali Ghaeinei

Department of Pediatric Surgery, Nemazee Hospital, Shiraz University of Medical Sciences, Shiraz, Iran

Transverse testicular ectopia is a rare congenital abnormality in which both testis migrate through the same inguinal canal and hemi-scrotum. A 1y/o boy, with normal karyotype (46, XY) and bilateral undescended testis was underwent surgery. Two separate, small sized, suspicious sex organs with abnormal consistency, were found behind right internal ring in abdominal cavity without separate vascular pedicles. Biopsies were taken from both sex organs which were in favor of testis (seminiferous tubules with no ovary tissue).Both testis brought out through right inguinal canal to the scrotum and were fixed through dartus muscle.

The Inconspicuous Phallus

Emilio Merlini F.E.A.P.U.

The term inconspicuous penis encompass a large group of conditions where the penis either looks or is smaller than normal or it is even absent.

Penis may look smaller than normal when it is concealed under the suprapubic area or the scrotal skin. Maizels subdivided this condition in: the “buried penis” when it is concealed under the pubic pad, the “webbed penis” when a scrotal skin web obscures the peno-scrotal angle and “trapped penis” if the penis is constricted by a tight scar after circumcision. To the same family, but with different features, belongs the so called megaprepuce. Frequently the buried penis is associated with extreme obesity, both in adults and children and liposuction has been advocated to treat such cases. When penis is small (at least - 2 SD from normality) it is called “micropenis”. Micropenis may be related to endocrine disturbances including extreme cases of partial androgen insensitivity or be idiopathic. The extreme type of phallic inadequacy is aphallia, either congenital or acquired.

Some of these conditions may be amenable to surgical treatment. The concealed or buried penis is due to a deficient attachment of penile skin dartos layers to Buck’s fascia, moreover, penile skin is usually deficient specially on the anterior aspect of the penis. This condition comes as a spectrum and therefore many different types of surgical corrections have been advocated. In general, principles that apply to most cases include: degloving of the penis, midline ventral incision extending to the scrotal raphe, stitching of the dartos to corpora cavernosa including a bite of prepubic tissue. In the majority of cases, skin shows a V shaped defect on the ventral aspect of the penis. In such cases, I use the inner surface of the foreskin to bridge the defect, either as an island flap or, more recently, as two triangular flaps made with inner preputial layers coming from both sides and joining in the middle. The important aspect that needs to be emphasized is that these patients need not to be circumcised beforehand, because they need to preserve all their phallic tissues. In megaprepuce the procedure is similar; in such cases it is important to discard some of the abundant dartos tissue that will otherwise cause much edema postoperatively.

Aphallia, either congenital or acquired, or true, extreme, micropenis not responding to endocrine treatment are a much more complex situation. In the past, and somewhere even now, gender reassignment was suggested in similar cases. In my opinion- and not only mine, this is a wrong decision because these patients, in most cases, have been imprinted by fetal and perinatal testosterone and therefore they do not adapt themselves to a female gender role.

These unlucky patients may undergo a phallic reconstruction with a forearm flap after puberty, but the problem remains of what can be done in infancy. De Castro described few years ago a type of phalloplasty that could be applied even in infants. The procedure consists in an inferiorly based quadrangular abdominal skin and fat flap (Pryor’s flap), that is then rolled into a cylinder and with some technical refinements assumes the aspect of a phallus. The procedure has undergone multiple modifications dictated by the experience. Any erectile tissue or existing small glans is incorporated into the new penis. In the initial cases every effort was made to bring the urethral opening to the very tip of the neo-phallus, but this attempt has now been abandoned being cause of most complications. This procedure was conceived, initially, as a temporary phallus to bridge the interval time before a more definitive forearm flap phallus was made. But in one case of De Castro neo-phallus a penile prosthesis has been inserted and, up to now, with good functional results. Time and further technical refinements will help us to understand the proper role of this procedure in the treatment of these highly unlucky and complex boys.

Role of tissue engineering in treatment of hypospadiasis

Dr Mohammad Kajbafzadeh

Key note lecture in surgery of cripple hypopadias

Dr Seyed Jalil Hosaini

IRHRC, Reconstructive Urology, Tajrish Hospital, Shahid Beheshti medical Science University, Tehran

Hypospadias cripples can be defined as patients with remaining functional complications after previous hypospadias repair.

Adults with complications following childhood hypospadias repair are still a difficult population to treat with a high failure rate for reoperative surgery.

A poor cosmetic result is the most common complication, often related to irregular and asymmetric scars with skin ‘blobs’ and an excess of ventral skin . The mucosal collar is an important addition to improve penile cosmesis. Urethral fistula is the second most common problem met in this surgery, often lateral at the coronal level. The temptation to simply close the fistula is dangerous, as recurrent fistulae are quite common at this level. Often it is more advisable to repeat the whole urethroplasty.

With the development of tissue engineering it is hoped that urethral substitution using the patient’s urethral tissue might be a future avenue to resolve the current difficulties.

In repairs performed with free grafts there is a significantly higher proximal stricture rate when a tube rather than an onlay is used. Otherwise there was no significant difference in the complication rates of flaps and grafts

If the initial result is satisfactory, then patch urethroplasties tend to do well in the medium term whatever the source of the flap. No matter how good the initial result, scrotal skin tube urethroplasties do badly; preputial / penile skin performs better but tube urethroplasties tend to narrow down. In the long term - more than 10 years - all skin inlays seem to have a tendency to deteriorate (A. R. Mundy).

The combination of split-thickness mesh graft urethroplasty and a tunica vaginalis flap appears to achieve success in the difficult patient with complex hypospadias subsequent to multiple failed repairs.

The 2-stage approach for severe hypospadias results in excellent function, cosmesis and patient satisfaction after puberty, with no chordee. Minor voiding and ejaculatory problems are to be expected. Late complications are rare. The use of extragenital skin to either primarily repair or salvage a “cripple” is not necessary.

buccal mucosa is the free graft material that should be the first choice in complex hypospadias cases that are circumcised or undergo operation more than once and when the penile skin is not available.

Bladder Mucosal grafts expected to provide excellent functional and cosmetic results with only a small percentage of complications but is not using frequently.

Urethral reconstruction using autologous and everted vein graft and also supero-medial thigh flap for urethral reconstruction have also been reported with acceptable results.

The techniques and the cases will discuss in detail with RUDTH experiences.

Use limberg flap in hypospadias fistula repair

Seyed Mohammad Ali Raisolsadat MD

General surgery, Islamic Azad University of Mashhad, Mashhad, Iran

Background:

Urethrocutaneous fistula formation is the most common complication of hypospadias repair, with a reported incidence of 4-25%.

The cause of fistula formation remains less known although it is likely that local infection, local ischemia, poor procedure, bad tissue handling, distal obstruction due to distal stenosis type of suture material, patients age, proper inversion of the edges, skill of the operating surgeon, severity of hypospadias has significant impact on the outcome of the primary hypospadias repair.

Methods:

In last two years (2014-2016) we use Limberg rotation flaps for repair of urethra cutaneous fistula in hypospadiasis, in this period we did 22 fistula repair (any sizes) in 19 patient, in age 2 years to 16.

Results:

We had 3 fistula recurrences (13%) that need re- repair. That we did re repair as former technique in 2 patients, one case missed.

Conclusions:

Unfortunately there is no one single perfect technique to repair an urethrocutaneous fistula in hypospadiasis.With 87% success in this manner (repair with Limberg flap) we recommend it in hypospadiasis fistula repair although repairement is based on surgeon interest and experience

Uroflowmetry Assessment and Objective Scoring of Hypospadias Repair in children:

our Center Experience

Mohajerzadeh L. Khaleghnejad Tabari A. Rouzrokh M. Mirshemirani A. R. Sadeghian N. Ghoroobi J. Izadi M. Roshanzamir F. Sarafi M. Hatefi S. Abassian A. Ghafari P

Pediatric Surgery Research Center, Shahid Beheshti University of Medial Sciences Tehran Iran

Purpose:

Functional outcome of hypospadias repair is more significant than cosmetic outcome. In another studies, structured scoring systems and uroflowmetry, were used to assess results of hypospadias repair. The aim of this study was to evaluate the Functional outcome of hypospadias after distal shaft hypospadias surgery over a long-term follow-up.

Patients and method:

Study designed Files from patients who underwent primary hypospadias repair at our institution between 2006 and 20011 were reviewed. Only patients with documented postoperative uroflowmetry profiles and serial follow-up visits were included.

Over a period of 6 years, 572 primary hypospadias patients were treated in our center. Then we called and requested them for visit and uroflowmetery in children more than 5 years old. However only 78 children and their parents agreed to participate in this study.

The HOSE (Hypospadias Objective Scoring Evaluation) questionnaire and uroflowmetry were obtained to evaluate the long term outcome hypospadias repair.

Results:

The age at time of assessment ranged from 5 to 11 year-old, with mean follow up of 60 months. Five patients (2.6%) had proximal hypospadias, 7(9%) midshaft and 69 (88.4%) had distal varieties of hypospadias. 12(15.4%) children had history of penile chordea before repair. Operations performed were 39 (50%) MAGPI, 34(43.6%) TIP and 5(6.4%) Onlay Flap.

In MAGPI group 100% had acceptable HOSE. In TIP group 82% had acceptable score and in Onlay group 90% had acceptable score.

Uroflow rates of MAGPI group: 5 subjects were below the fifth centile, in 11 patients equivocal (between 5^{th} and 25^{th} centile) and 23 patients above 25^{th} centile.

Uroflow rates of TIP group: 11 subjects were below the fifth centile, 17 patients were equivocal (between 5th and 25^{th} centile) and 6 patients were above 25^{th} centile.

Uroflow rates of Onlay flap group: one patient, equivocal (between 5^{th} and 25^{th} centile) and 4 patients above 25^{th} centile.

Conclusion:

HOSE and uroflowmetry are non invasive and simple tools to assess long term outcomes of children after hypospadias repair. Because studies reported remarkable improvement at puberty so watchful waiting with following the objective parameter by examination and uroflometry is proposed to avoid unnecessary intervention.

Key words: Hypospadias, objective assessment of hypospadias repair, uroflowmetry

Risk factors for urethrocutaneous fistula after hypospadias repair

Mohajerzadeh L. Khaleghnejad Tabari A. Rouzrokh M. Mirshemirani A. R.
Sadeghian N. Ghoroobi J. Izadi M. Sarafi M. Hatefi S. Abassian A. Ghafari P
Pediatric Surgery Research Center, Shahid Beheshti University of Medial Sciences Tehran Iran

Abstract:

Purpose:

Urethrocutaneous fistula is most common complication after hypospadias repair. In this study we would like to identify the individual risk factor for the urethrocutaneous fistula (UCF) in pediatric patients after hypospadias repair (HR) in our center.

Materials and Methods:

From 2006 until 2016, 990 patients with hypospadias repaired primary in our center. Referral patients with complication removed from our study. Most common complication after surgery was urethrocutaneous fistula. The records of boys with primary fistula after repair were reviewed. Clinical data including the patient' age at HR, hypospadias type and urethral defect location, magnification, type of homeostasis were documented. Several variables potentially affecting the success of fistula closure were retrospectively assessed.

Results:

Among 990 patients, 23% patients (n = 227) developed UCF after primary HR. Patient age was 3 months to 12 years. Postoperative UCF occurred in 26% (60/227) cases at age of 0–1 years, 29% (65/227) at 1-2 years, 26% (60/227) at 2-4 years, 11% (25/227) at 4-6years and 7%(16/227) in 6-12 years. The incidences of UCF were 17% (133/770) for distal, 34% (22/65) for middle and 50% (70/141) in proximal types of hypospadias.

Another variables studied for fistula included, penile chordea 36% (89/242) ($P<0.05$), History of circumcision 25% (9/36) ($P>0.05$), preoperative hormone therapy 57% (16/ 28) ($p<0.05\%$).

Rate of fistula formation based on type of original hypospadias repair: MAGPI 3% (12/374), 33% TIP (134/402), Durham Smith 45% (27/60), Mathieu 23% (12/51), Two stage inlay graft + TIP70% (12/17), Ducket 80% (4/5), modified Brackaand 37% (11/29) and Onlay Flap10% (5/49).

49% of fistula (112/227) followed vicril material (112/422), and 51% (100/227) after PDS (100/532) ($P > 0.05$).

Correlation with way of homeostasis: fistula rate after tourniquet 33% (68/202), Epinephrine 24% (68/283) and 17% with no homeostasis agent (83/482).

Fistula formation after Silasyic drpping stent 28% (106/379) and silastic foley catheter 32% (110/338). 9 patients had suprapubic cystostomy or retrograde cystostomy after repair but fistula was carried in 6 cases. Rate of fistula after repair was 3% (5/160) in patients with no urethral stent, 16%(31/188) in1-3 days stent, 31% (154/485) in4-7 days stent and 49% (32/65) in 8-10 days. Oxybutinun administered in 53% (525/990) of patients. Fistula observed in 151(28%) patients of them. Rate of fistula was 22% (94/409) in magnification with Loupe and 23% (133/581) without loup (P.0.05).

Conclusions:

Regarding urethrocutaneous fistula after repair , the data from this study suggest that there is no clear difference in fistua formation in positive history of circumcision, type of stent ,urethral diversion, magnification with loupes, type of material suture, type of homeostasis and administration of oxybutinin.

While Proximal type, presence of penile chordea, history of preoperative hormone therapy, type of surgery (Two stage inlay graft and full Duchet), prolong duration of urethral catheter significantly affect it ($P<0.05$). Older age at HR was associated with low incidence of UCF formation but they had distal shaft hypospadias in most of cases.

Key words: Risk factors, urethrocutaneous fistula, hypospadias repair

Introduction of a new technique to repair of a large urethrocutaneous fistula after hypospadias repair

Seyed Abdollah Mousavi

Professor of Mazandaran University of medical sciences

An urethrocutaneous fistula is the most commonly complication of hypospadias surgery. The size of Fistula is di! erent and change from pinpoint to large enough for all voided urine to exit at this site. On the other hand, fistula may be associated with stenosis or distal stricture. A large fistula may require more complicated closures, with mobilization of tissue & aps or advancement of skin & aps to ensure an adequate amount of well-vascularized tissue for a multi layered closure.

A routine and usual surgical repair includes assessment of distal obstruction, excision of the fistula tract with closure of the urethral opening and & ap coverage over the defect. But there is controversy to management of a large urethrocutaneous fistula that sometimes is known as cripple hypospadias and some surgeons suggest “start again”.

We had experienced management of a large urethrocutaneous fistula in a two year old boy with a history of penoscrotal hypospadias surgery by Ducket technique last 6 month. A/er an open book incision mobilization of urethral plate, release of fibrous ventral tissue and ventral curvature by ventral transverse incision and tubularization of urethra on a nelaton catheter by 6-0 vycril had done. Eventually an adjacent & ap covered the entire neourethra and skin & ap had closed. No urinary diversion had done.

Urethral stent exited a/era ve days. A/er 2-month the boy has not any complications.

Investigation of histopathological modification of prepuce in various age

(Determination time of surgery)

Marjan Joodi, Ali Barati, Ahmad Mohammadipour, Reza Nazarzadeh, Mahdi Parvizi,
Ali Azadmand, Farideh Jamali-Behnam

Abstract:

Background:

Circumcision is the oldest surgical procedure most often undertaken for ritual religious and cultural reasons rather than therapeutic purposes. The practice of circumcision is often controversial. This procedure is accompanied with some complications because of pathological and histological modifications of foreskin. The aim of this study is to investigate pathological and histological modifications of foreskin in various age groups of pediatric boys and determine best time to perform this procedure with less complication.

Method:

A prospective study with total of 130 circumcised infants aged between 1month and 14 years were included in the study. The patients selection were randomized from who were referred to the Dr. Sheikh pediatric hospital for circumcision just because of their religious beliefs in 2014.

In this study, age of circumcision with variables pathology including presence of cyst, hyperemia and vascularity, dermatitis and fibrosclerosis in prepuce were investigated and compared. In order to assess histological changes, the whole prepuces were removed from all patients. All circumcisions were performed by one surgeon and using a standardized technique. Data were analyzed using SPSS19 for Windows.

Result:

In this study, children were divided to two groups according to their age including under 1 year (n= 92 case) and more than 1 year (n=38). Children ranged in age from 1 month to 14 years with a mean of 14.79 months and the standard division was 17.35. According to the histopathological characteristics of 92 cases, there was no significant correlation between histopathological characteristics and age. Among all trimesters (n = 92), only one case of cyst was presented which was related to the group aged between 9 and 12 months. The result was similar in infants more than 1 year and only 1 cyst was observed in age of one. Regarding to fibrosclerosis and hyperemia, our histological experiments showed no evidence among all trimesters while the whole children more than 1 year had some degree of hyperemia and vascularity. In terms of developing dermatitis, there was a significant relation between age and risk of dermatitis. All cases were focal dermatitis. 2 cases of fibrosclerosis (%33) occurred in those aged 2 years with probability 0.027

Conclusion:

The result of this study showed that infants above 1 year, the pathologic changes of prepuce was higher. Therefore, to avoid such modifications and possible complication, it is suggested that circumcision and surgeries dependent to prepuce should be carried out in infants less than 1 year.

Use of Fibrin glue in Hypospadias repair

Marjan Joodi, Ahmad Mohammadipour, Reza Nazarzadeh, Mahdi Parvizi, Ali Azadmand, Farideh Jamali-Behnam

Background:

Hypospadias is defined as an incomplete virilization of the genital tubercle leading to an ectopic opening of the urethra on the ventral aspect of the penis, urethra open any where from the glans to the perineum with or without ventral curvature and a ventral prepucial. Complications in hypospadias surgery are higher than other reconstructive procedures. Fibrin glue is a biological glue which uses to carry out various reconstruction especially for urethra. The aim of this study was application of FG to repair.

Method:

Ten patients, ranging in age between 12 and 18 months, with proximal hypospadiasis were included in the study. 4 0f 10 patients were scrotal and 6 cases were midshaft. The selected methods to carry out the surgery were onlay island flap and transverse preputial island flap. In this study, severity of disorder and possible complication of large surgery were the reasons of application FG. After parents had filled the consent form, FG was extracted from infant's blood. Seventy two hours before surgery, this compound was extracted approximately 2-4 cc. Several reconstruction surgeries were supported by FG layer by layer. Finally, it was applied for wound dressing. The effectiveness of therapy was evaluated in 1, 3, 6, and 12 months intervals.

Result:

Based on the results, there is no evidence of infection, fistula and dermatit after surgery. Use of sedative after surgery was limited. Furthermore, there was no excessive wound dressing.

Conclusion:

Application of FG as a supportive layer for anastomos and wound dressing can be helpful to alleviate complication after surgery. Furthermore, this technique can provide surgeon, parent and infant satisfaction.

The effects of suture materials on urethroplsty in Hypospadiasis surgery

Seyed Mohammad Vahid Hosseini (1), Babak Sabet (2), Mahsa Ramezanpoor

Pediatric surgery urology section, Beasat Hospital, Shiraz, Iran
Department Surgery, ShahidBeheshti, Tehran, Iran
Department of Surgery, Sick Hospital Children Bandarabbas

Background:

The success of hypospadiasis repair is depending upon variables inherent to both patient and surgical technique employed. We compared the results of suture materials on hypospadiasis by evaluating thrpostoperativre complications.

Methods:

A total of 340 patients 1-6 years old affected by mid shaft hypospadiasis and mild chordee randomized to 2 different groups according to the suture materials used during TIP procedure. Polydiaxanone G1 and Vicryl G2. All patient were evaluated at interval of 10 days, 20 days 1, 3, 6 months and 1 year postoperatively. Urethral stenosis .fistula .dehiscence .infection and dilatation were recorded by t and chi - square test.

Results:

In following data was documented. Urethralfistula %31.3, skin dehiscence %18.8, infection %18.8 with no significant difference between G! And G2 (P=.123). Only stricture %33.4 and rate of dilatation %38.9 in G2 but no statistically difference (P=.211).

Conclusions:

Our studies showed that type of suture material had no significant effects on final results.

Regular Dilation in Tublarized-Incised Urethral Plate urethroplasty for prevention of fistula formation

Seyed Mohammad Vahid Hosseini (1), Babak Sabet

1- Pediatric surgery urology section, Beasat Hospital, Shiraz, Iran
Department of surgery, Sick hospital Children Bandarabbas
Department surgery, Shahid Beheshti, Tehran, Iran

Introduction: Hypospadias is a common congenital malformation in boys. One of the common surgical techniques for correction of hypospadias is (Tubularized Incised Plate urethraplasty=TIP). Meatal stenosis and fistula formation are known post-operative complications. The purpose of our study was to evaluate the effect of early urethral dilatation in prevention of post operative complications.

Methods: A randomized clinical trial including 60 patients with distal hypospadias who underwent tabularized incised plate urethroplasty with or without dilatation was conducted in Bandar Abbas children hospital in 2011. Patients were divided in two groups. The number of the patients and mean age were not different in two groups. Urethral dilatation was started in first group at two weeks following surgery and continued for six months. The patients of second group were followed without urethral dilatation. All patients were followed for occurance of complications for one year. Chi-Square and t-test were used to compare the groups.

Results: In the first group the early fistula, late fistula, stenosis, hematoma, urinary infection, cutaneous necrosis, and wound dehiscence were developed in 16.7%, 6.7%, 10%, 26.7%, 13.3%, 10%, and 20% of the patients, respectively. In the second group these complications were seen in 10%, 6.7%, 3.3%, 13.3%, 6.7%, 3.3%, and 6.7% of the patients, respectively. Statistical analysis of results showed no significant differences between two groups in rate of complications.

Conclusion: Early urethral dilatation after urethroplasty has no significant effect on post-operative complications.

Key words: Hypospadias – Fistula - Dilatation

Role of tissue engineering and stem cell in treatment of hypospadiasis

Abbas Hadipour[1,] Soheil Osia[1]

1-Pediatric Surgeon, Non-Communicable Pediatric Diseases Research Center, Health Research Institute, Babol University of Medical Sciences, Babol, Iran

The surgical treatment of severe hypospadiasis can be very challenging and sometimes needs multiple surgeries. Complication such as fistula, stricture, diverticula, wound dehicense, chordee, urinary obstruction, and scar are common.

Recently about ten years use of stem cell and tissue engineering. Increased knowledge about tissue repeating and better structural function. This method base on use of specific population of live autologous cells for decreasing surgical complication.

The most common is culture of fibroblast and keratinocyte in lab environment of cells that obtain from skin of patient and the with use of wound dressing scaffold, cultured tissue transfer to wound, for example urethra that promote wound healing.

Other method is, urothelial cells that obtain from bladder lavage are cultured in specific environment and such as free graft by only method and put on urethra for repair.

One of the best tissues for autologous cells is prepuce of neonate that is a very good source of fibroblast for repairing.

In cellular research center of Babol university studies of fibroblasts and mesenchymal cells that separated from propose, results showed this cell in the same condition of wound, secrete proteins that promote wound healing both in invivo and invitro. This study for burn wounds and chronic ulcers in extremities have a very good result and we planned use of this method for repair of primary severe hypospadisis or redo surgery as soon.

Effect of oral anticholinergic therapy on prevention of urethral catheter side effects in hypospadias repair

Parisa Saeidi MD, Mehran Hiradfar MD, Reza Shojaeyan MD, Reza Nazarzadeh MD, Alireza Sabzevari MD, Ali Azadmand MD

Department of pediatric surgery, Dr. Sheykh hospital, Mashhad University of medical sciences, Mashhad, Iran

Introduction:

Hypospadias is one the most important anomalies of genitourinary system. In order to repair this anomaly with any methods we need urinary diversion. In majority of this method we used urethral indwelling catheter for urinary diversion and remodeling but balloon of this catheter induce bladder spasm and discomfort and sometimes major problem in hypospadias reconstruction. The aim of this study was evaluating the effect of oral anti-cholinergic therapy on prevention of urethral catheter side effects in hypospadias repair.

Material and methods:

This study was conducted between 2010 until 2014 in a pediatric surgery department. Children who enrolled in this controlled clinical trial study suffered from mid to distal hypospadias, their ages were 12-30 months old. Patients were divided into two groups: A- Twenty patients (control group) who took our routine analgesic regimen and group B: Sixteen who took routine analgesic regimen plus anti-cholinergic (Oxybutinin 0.25 mg/kg per day) immediately after oral regiment were started. The techniques of repair were TIP, Mathieu and onlyflap. Silicon indwelling catheter was inserted for urinary diversion in all subjects. Pain which required further analgesic administration was considered as primary outcome.

Results:

Additional analgesic was required in 15/20 of patients of group A and 6/16 of group B which was significantly higher than anti-cholinergic group (X^2=5.14, P=0.02). Urinary leakage was seen in 10/20 of patients in group A which was significantly higher than group B (3/16) (X^2=3.7, P=0.05) Sever pain which needs intervention was observed in 10/20 subjects of group A and 2/16 of group B which was significantly different (X^2=5.6, P=0.01), but urinary retention was not significantly different between two groups (3/20 in group A and 1/16 in group B).

Conclusion:

Oral anti-cholinergic therapy after hypospadias reconstructive surgery can decrease the side effects of balloon of indwelling catheter such as pain and urinary leakage especially in children.

PATIO repair for urethrocutaneous fistula after hypspadias surgery

Mohajerzadeh L. Khaleghnejad Tabari A. Rouzrokh M. Mirshemirani A. R.

Sadeghian N. Ghoroobi J. Izadi M. Sarafi M. Hatefi S. Abassian A. Ghafari P

Pediatric Surgery Research Center, Shahid Beheshti University of Medial Sciences Tehran Iran

Abstract:

Aim:

Urethrocutaneous fistula after hypspadias repair remains a challenge for pediatric surgeon. A new technique has been explained in papers for management of urethrocutaneous fistula: the PATIO (‘preserve the tract and turn it inside out’) repair. We describe our skill with this technique in managing urethrocutaneous fistula following hypospadias repair.

Patients and Methods:

In this prospective Children with penile urethrocutaneous fistulae <4 mm widest diameter underwent the PATIO technique of repair. Between 2012 to 2015, we established this procedure for 15 children with mean age 7.5 year (1.5-13 year). Diameter of fistula were between 2-4 mm. Except in one patient with midshaft fistula, location of fistula were in distal. In past, Fistula underwent repair between one to five times.

Results:

Mean duration of follow up was 18 month. The mean operating time was 15 min. Hospital stay was less than 12 hours and no catheter used postoperatively. Recurrence of fistula was noted in 5 cases but 10 patients cured.

Conclusion:

The PATIO repair is simple and easy to perform, with low morbidity, and is reliable in treating solitary urethrocutaneous fistula < 4 mm in size.

Key word: PATIO repair, urethrocutaneous fistula, hypspadias

Cyanoacrylate Glue for Hypospadias Surgery fistula repair

Seyed Mohammad Vahid Hosseini (1), Babak Sabet

1-Pediatric surgery urology section, Beasat Hospital, Shiraz, Iran
Department of surgery, Sick hospital Children Bandarabbas
Department surgery, Shahid Beheshti, Tehran, Iran

Abstract:

Background:

Urethrocutaneous fistulae (UCFs) represent one of the most frequent causes of morbidity after urethroplasty. Cyanoacrylates have been used as skin suture substitutes. Here we describe the results of management of UCF using 2-octyl cyanoacrylate (OCA) compared with surgical repair.

Methods:

A randomized clinical trial conducted from 2008 TO 2014 included 42 patients with UCF. Twenty-one children were assigned to receive OCA as ambulatory patients and 21 were treated surgically. The main outcome variable was closure of the UCF.

Results:

The mean ageof UCF were 1.3 in the OCA group and 1.1 in the surgical group with no statistically significant difference. The external orifices measured were 2.6 ± 1.0 mm and 3.6 ± 0.9 mm, respectively). Sixty per cent of the UCFs treated with cyanoacrylate were completely closed and 68% of the surgical group healed completely (NS). More than one reoperation to improve complications was needed in the surgical group (3.5 ± 1.2).

Conclusions:

The results showed a similar success rate for both treatments. However, sealant use should be considered before surgical treatment because this is a simple outpatient procedure with a reasonable success rate.

Keywords: Hypospadias, Urethrocutaneous fistula 2-Octyl cyanoacrylate, Fistula repair

Cyanoacrylate Glue Dressing for Hypospadias Surgery

Seyed Mohammad Vahid Hosseini (1), Babak Sabet

1- Pediatric surgery urology section, Beasat Hospital, Shiraz, Iran
Department of surgery Sick hospital Children, Bandarabbas
Department surgery Shahid Beheshti, Tehran, Iran

Back Ground:

Hypospadias repair is a common pediatric operation. Several kinds of dressings are currently available, with their benefits and side effects. The aim of our study was to introduce a new method of dressing, by pouring several layers of cyanoacrylate (CA) glue as the dressing, in hypospadias surgery.

Materials and Methods:

Twenty out of the 61 patients with hypospadias, with a mean age of 13.5 months, were enrolled in this study. Forty-one had conventional dressing (pressure wrap dressing), while CA glue was used in 20 patients. CA glue was applied around the penis and its base four times and each time it took one minute to dry. All patients were followed postoperatively for two weeks and six to twelve months, for early and late complications, respectively.

Results:

One out of 20 developed wound hematoma, one had skin necrosis with infection, and edema was present in all. All these were easily diagnosed and managed rapidly. In the group treated with conventional methods, there were five infections, seven hematomas, all the patients in the group had edema and painful removal of the dressing, and 10 needed repeat dressing.

Conclusions:

CA glue is impermeable to urine and stool, and prevents edema and hematoma. Used in several layers, it is a good alternative dressing in hypospadias surgery.

Keywords: Cyanoacrylate, Hypospadias, Surgical dressing

Re-operation after failed hypospadias repair; our experience in Tabriz Children Hospital

Jamshidi Masoud, Badbarin Davoud, Aslanabadi Saeid

Pediatric Surgery Ward, Tabriz Medical Sciences University, Tabriz, Iran
Department, Institute, Town, Country

Background:

Rate of complications are high in hypospadias repair. Our purpose is to evaluate our success rate after redo operation in failed hypospadias repair.

Methods:

Retrospectively we collected data from distal and proximal shaft hypospadias repair from 2012 to 2016 that had been gone under redo hypospadias repair. Simple complications such as fistula excluded. Patient age at first operation, time between first operation and redo, first repair type and chordee presence, meatus location and demographic data collected. All patients went under Tubularized Incised plate (TIP) operation and chordee repair in redo operation. Results of redo operation were collected and need to another operation were determined. We compared data and consumed P-values <0.05 considered statistically significant.

Results:

We determined rate of redo operations in distal and proximal anomalies and in different type of repair separately and results of redo operation in these patients. We present these results after completion of our survey.

Conclusions:

Results of redo operation by TIP method are acceptable and encouraging.

Comparative results of distal shaft hypospadias repair with TIP & ONLAY FLAP

Surgical techniques

Mohajerzadeh L. Khaleghnejad Tabari A. Rouzrokh M. Mirshemirani A. R. Sadeghian N. Ghoroobi J.

Izadi M. Roshanzamir F. Sarafi M. Atghiaee Kh. Hatefi S. Abassian A.

Pediatric Surgery Research Center, Shahid Beheshti University of Medial Sciences Tehran Iran

Aim:

To compare the outcome of Onlay flap with tubularized incised plate urethroplasty (TIP) in primary distal hypospadias repair.

Methods:

In this study, patients with primary distal shaft hypospadias without chordea that referred to mofid childrens clinic in 2013 & 2015 were divided in two groups .Then patients underwent surgery the success rate and complications were compared according to the surgical technique.

Results:

From 26 patients, 13 cases (50%) surgery was with TIP technique and other cases (50%) surgery was with Onlay Flap technique. Average age at surgery was 19.96 months (minimum of 6 months and maximum 60 months.) The mean patient age at surgery was 15 (range, 6-40) months in the onlay group and 22 (range, 6-60) months in the TIP group .All patients were followed-up for at least 15 months.

From patients underwent Onlay Flap technique surgery 11 cases(84%) presented with no kind of associated anomalies but 2 cases (16%) associated with inguinal hernia. In patients underwent TIP technique surgery one case (8%) presented with associated UDT and one case presented with associated Imperforated anus.

The average time needed to Urinary Catheters in Onlay Flap surgery was 5.6days (minimum of 2 days and maximum 7 days.) and this time in other group was 6 days. (minimum of 2 days and maximum 7 days.) (P value =0.12)

During follow up 3 cases (24%) of patients underwent TIP technique were complicated with UCF (Urethrocutaneous fistula) but in other group two cases (16%) was complicated with UCF (P value =0.61). In other cases was not observed any kind of complications.

The average time needed to Hospitalization in patients with Onlay Flap surgery was significantly lesser than other group (3.76 days versus 6 days.) (P value=0.02).

Conclusion:

In this study, significant Difference was not observed in Outcomes and efficiency and Complications of Onlay Flap surgery technique versus TIP surgery technique in distal shaft hypospadias. But Hospitalization period was significantly lesser in patients under go Onlay Flap technique surgery. Further studies about Long-term complications and Long-term psychological and functional problems recommended.

Key words: Hypospadias, Fistula, Onlay flap surgery, TIP Procedure

Outcome of tubularized incised plate (TIP) urethroplasty: single center experience

Mohajerzadeh L. Khaleghnejad Tabari A. Rouzrokh M. Mirshemirani A. R.

Sadeghian N. Ghoroobi J. Izadi M. Roshanzamir F. Haj Esmaeeli A.

Pediatric Surgery Research Center, Shahid Beheshti University of Medial Sciences, Tehran, Iran

Abstract:

Introduction:

In order to assess our skill in the tubularized incised plate (TIP) urethroplasty technique in children with hypospadias.

Material and Methods:

From 2006 until 2016, 394 children (mean age 36.3±30 month) underwent TIP urethroplasty. All had primary hypospadias. Patients who were referred with complication were eliminated from our study. The hypospadias defects were subcoronal in 26 (6.6%), distal penile in 316 (80.2%), midpenile in 29 (7.4%), proximal in 15(4%) and unknown in 7(2%) cases. Chordee was present in 63 (16%) patients. Presence of complications requiring reoperation and overall general appearance was recorded.

Results:

The mean follow-up was 50 month (15 months until 10 year). Overall success rate was 64 % (253). Re-operation was required in 141 patients (36%): for urethrocutaneous fistula in 122 (30%), complete disruption of the repair in 10 (2.5%) cases and meatal stenosis requiring meatoplasty in 12 (3%). Complete glans dehiscence occurred in 5 patients, which was repaired using the MAGPI technique. Partial breakdown of the glans occurred in 12 cases which did not require further surgery. One case had a huge urethral diverticulum.

Conclusions:

This technique is relatively common compared to other accessible operations, but attention to details is necessary in order to achieve good results. It appears that complications, such as fistulas and meatal stenosis are more common in this method than other techniques, which require more research in the future.

Keywords: Hypospadias, Urethral plate, Urethroplasty, Meatal stenosis, Fistula