FROM THE GUEST EDITOR

Mark R. Zaontz, M.D.

“Doctor, what’s wrong with my son’s penis? It never seems to come out and his brother’s looks normal.” All too often concerned parents present with this common complaint following a newborn circumcision or are referred by a concerned primary care provider. Penile concealment is a real entity that in decades past was paid little if any heed. Unfortunately, many children grew up without significant improvement, faced the ridicule of classmates and possible feelings of inadequacy into adulthood. In the past 2 decades there has been a greater interest in both the etiology and treatment of penile concealment.

In this Dialogue, I have assembled a group of experts who have contributed greatly to our understanding and treatment of this malady. John Redman, a master anatomist, presents his anatomical observations as to the etiology of the concealed penis. Casey Firlit, who always taught me to “keep it simple,” details his common sense approach to repair the buried penis. Tony Caldamone updates in his clear concise style his modified 3-point fixation technique that he popularized, based upon the prior work of Casale and Cromie. Lastly, I will present my surgical approach to the concealed penis that presents with significant penoscrotal web. I would like to thank John, Casey, Tony and their colleagues for their time and valued insight. I hope you find this as informative and worthwhile as I did.

FROM THE EDITOR

Anthony A. Caldamone, M.D.

“Concealed penis is often thought to be absent penis but the rudimentary organ is simply hidden beneath the skin of the scrotum, perineum, lower abdomen or thigh in the fatty subcutaneous tissues which may be unusually thick.”

This is the description of the concealed penis in the first edition of Meredith Campbell’s Clinical Pediatric Urology, published in 1951. He goes on to talk about urethral angulation resulting in urinary retention which requires that “relief of obstruction must be given at once.” The recommendation at the time was that “plastic reformation” not be attempted until 6-8 years of age when there is sufficient growth of the penis.

Mark Zaontz has assembled a group of contributors who have all added to our understanding of the anatomy and natural history of this common anomaly. Each author places this anomaly in perspective by listing their indications for surgical correction. As we all know, for many of these children a simple explanation of the anatomy and natural history should place the parents at ease. For those who do require surgical revision, this issue brings us a long way from simply excising more apparent redundant skin.

This is an excellent monograph on a common topic which details the anatomy and treatment options of the concealed penis. I applaud Mark Zaontz and his contributors.
The Anatomy of the Concealed Penis

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The first consideration in a discussion of the anatomy encountered in a dissection of an abnormal or variant organ is to define and describe the normal anatomy. The issue at hand involves the integuments and supports of the penis, and, therefore, the following descriptions will be confined to those structures. From the superficial to deep, the investments of the penis consist of the skin, superficial fascia and deep fascia. The supports of the penis are the fundiform and suspensory ligaments (Figure 1). These structures will be defined in turn. Parenthetically, it should be stated that very little has been written about the integuments and supports of the penis. Many of our urologic texts give scarcely veiled repetitions from Gray’s Anatomy or direct quotes without the citations, e.g., the penile skin “is remarkable for its thinness”1. Frequently, there is misinformation, such as terming the superficial fascia of the penis “Colles fascia” or stating that the fundiform ligament is contiguous with Buck’s fascia. The best and most complete description is found in Hinman’s Atlas of Urosurgical Anatomy 2.

It should be conceded that the penile skin is an amazing structure. Of the entire integument of the body, it must be one of the most unique. Thin and hairless and astoundingly elastic, it can accommodate immediately an organ that can expand multiple times its size in a flaccid state and then return to its original shape without any sign that a rapid expansion had ever occurred. The penile skin normally is cylindrical and equally distributed over the circumference of the shaft with an equal length on its dorsum and ventrum. The skin is composed of an epithelium and an underlying dermis, which in its entirety is quite thin. Pertinent to this discussion, Gray’s Anatomy makes this statement regarding the penile skin: “The integument covering the penis is remarkable for its thinness, its dark color, its looseness of connection with the deeper parts of the organ and its absence of adipose tissue”1.

The superficial fascia is also known as the darts tunic. It is contiguous with Scarpa’s fascia of the anterior abdominal wall and the dartos tunic of the scrotum, which in turn is contiguous with Colles’ fascia of the perineum. It differs from the superficial fascia of the lower abdominal wall in that it is comprised of only one layer, not two. Since mobility of the penile skin is a key issue in regards to the concealed penis, the following quotation from Gray’s Anatomy is included: “A fascial cleft between the superficial and deep fascia gives the skin greater mobility” 1 (Figure 2). The deep fascia, Buck’s fascia, is thicker and invests the corpora cavernosa and the corpus spongiosum and also covers the dorsal penile neurovascular bundle. Between the dartos tunic and Buck’s fascia is found a thin layer, which observant surgeons note, but probably cannot name - the tela subfascialis.

The ligaments of the penis, the support of the base of the dorsum of the penis, are two: the superficial fundiform ligament and the deeper suspensory ligament. The fundiform ligament, is described in Gray’s Anatomy as: “An extensive thickening of the deep layer of subcutaneous fascia (Scarpa’s) of the anterior abdominal wall just above the pubis where it is firmly attached to the rectus sheath. The fibrous bands extend down to the dorsum and sides of the root of the penis”1. The suspensory ligament is contiguous with Buck’s fascia.

The question must be raised: “What are surgeons encountering when they believe that they see anatomic abnormalities of the integuments of the penis?” A paper on the anatomical alignment for the correction of the buried penis concluded the discussion with these statements: “In our experience buried penis seems to be the result of inadequate attachment of the dartos or spermatic fascia to the deeper Buck’s fascia. In our cases it appeared that the dartos failed to attach to the mid and proximal shaft. Rather, there was a confluence of the dartos inserting inferior to the corona on the distal shaft. We believe that the lack of mobility” 1 (Figure 2). The deep fascia, Buck’s fascia, is thicker and invests the corpora cavernosa and the corpus spongiosum and also covers the dorsal penile neurovascular bundle. Between the dartos tunic and Buck’s fascia is found a thin layer, which observant surgeons note, but probably cannot name - the tela subfascialis.

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mid and proximal attachment of the dartos to Buck’s fascia caused the physical findings in our patients and may, indeed, be the major etiological factor in this disorder…The basis of our repair involves reestablishing the normal relationship of Buck’s fascia, dartos fascia and overlying skin”1. Subsequently, other surgeons have based their surgery for buried penis on this anatomic premise4-6. According to the standard descriptions of the penile integuments, these surgeons have described normal findings, but have concluded that they were abnormal. The logical next step would be to look for another reason or reasons for the abnormality.

A completely different anatomic finding was described by Crawford in 1977 in his report on surgery for the congenital buried penis, which utilized an incision which extended over the pubis7. He stated: “A distinct fibromuscular layer is found tethering the shaft to the abdominal wall. This layer, which resembles dartos muscle macroscopically and microscopically is excised or incised (depending on the size of the individual fibers) until the penis has been freed to occupy its normal relationship with the abdominal wall.” A very similar description was given by Devine, et al8. In 1990, Wollin also reported a similar tethering with boys with a buried penis and most particularly with boys with a webbed penis9. In addition to merely tethering the skin, he attributed these abnormal attachments to the causation of the short shaft skin, particularly on the ventrum. He stated: “It appears that the defect in shaft skin coverage is due to an abnormal attachment of the dartos muscle to the corporal bodies during penile development: these abnormal fibromuscular attachments cause a tethering of the penile shaft skin to the abdominal wall, thus preventing normal skin development”10. All of the descriptions of these surgeons again appear to describe a normal finding, since their descriptions are that of the characteristics and distribution of the fundiform ligament. Is it possible that a normal structure has been inappropriately malignant?

I have had a longstanding interest in the child with a “buried or concealed” penis10-11. Since being asked to write about the anatomy of the concealed penis, I have become intrigued with the varying appearances of the juncture of the abdominal wall and penile shaft skin in normal boys, because the issue at hand ultimately concludes with the expressed need for the penis to extend from the body wall. In a brief time, I have identified at least two distinct appearances: those in which the penile shaft appears to arise directly from a flat or slightly rounded pubic skin and those with a cowl of prepenile tissue associated with varying amounts of fat (Figure 3 A-D). Is the boy with a penis that arises directly from a flat pubic skin normal? Of interest to me also are the intraoperative observations of the striking differences in the penile appearance in the flaccid state, with the skin compressed from the shaft skin at the penile base and then in the stretched state (Figure 4 A-C).

My conclusion is that in the absence of curvature, the integuments of the penis in boys with a congenitally concealed penis are normal as regards their attachments. The incision of the skin and the underlying dartos tunic will allow the shaft to extend, particularly if the attached fundiform ligament is incised. If an excessive elongation is achieved, skin coverage will become a necessity. It is true that the skin may be surgically anchored to the deeper integuments of the penis so as not to allow the penis to be as hidden by the engulfing of the pubic skin. However, how many boys normally have some engulfing of the penis and how many are truly candidates for a surgical “correction”? This exercise has caused me to realize how little I know, but it has also stimulated me to what to want to learn more.

References
Concealment of the penis is a condition which has received greater notoriety during the past 2 decades. Earlier thinking simply explained the condition as obesity in childhood, ‘chunky’ boys, or those with inadequate or overzealous circumcision. The belief was that time, growth and development would correct the genital appearance. Time has taught us that it cannot and does not correct this appearance. Current thinking suggests that the retrussive penis is a result of poor fixation/suspension of the penopubic/penoscrotal annulus. This ineffective fixation appears as a consequence of poor fibro-stromal development. The result is failure of fixation of the annulus to Scarpa’s fascia superiorly and its extension inferiorly on to the dartos. The free flotation of the annulus allows for movement of the penile skin sheath distally. Hence, the configuration of penile retrussiveness/concealment is appreciated.

**INDICATIONS FOR INTERVENTION**

There are many indications for correction of this appearance. Urinary infection, balanitis, skin adhesions, misdirection of the urinary stream as well as the inability to grasp the penis during voiding are reasons for correction. Emotional issues arise as a consequence of parental and professional efforts to facilitate improvement. Psychosocial pressures from family and, more importantly, from peers serve to drive the desire to correct. Long term concealment may alter self-esteem and gender identification. Personality aberration occurs as a consequence of failure to correct. Poor self-esteem, socially withdrawn and sexually confused boys may develop.

**PHYSICAL FINDINGS**

Children presented for evaluation of concealment typically are patients who have had circumcision and appear as if they have not. The suprapubic annulus is evident with redundant shaft skin (Figure 1). Relocation of the annulus proximally (Figure 2) along the shaft will demonstrate the cause of the retrussiveness. The mobilization of the annulus will usually demonstrate that there is sufficient penile skin and that the penopubic/penoscrotal annulus is not “fixed”.

**SURGICAL CORRECTION**

The penis is placed on suture traction. A circumcision incision is made removing the circumcision scar. The median raphe is incised to the peno-scrotal junction and the skin shaft of the penis is degloved to the symphysis pubis and the scrotum. With the penis reflected dorsally the dartos of the anterior scrotum is identified (Figure 3, arrow). The dartos is then sharply separated from the corporal bodies and urethra proximally towards the urethral bulb (Figure 4, arrow). Since the dartos will be suture fixed to Buck’s fascia more proximally, this maneuver will achieve “additional” visible length.

Dorsally, the dissection is carried to the pubic symphysis. Beneath the pubic skin and superficial to the symphysis, Scarpa’s fascia is identified and pulled inferiorly. This fascia is then fixed to the dorsal Buck’s fascia with two clear, 4-0 nylon sutures. These sutures are placed into Buck’s fascia in the direction of the dorsal penile nerves while avoiding injuring these nerves.

**Figure 1.** The arrow demonstrates the penile annulus. Pseudo-redundancy of penile skin suggest the illusion of an incomplete circumcision.

**Figure 2.** With proximal migration of the penile annulus (arrow) the circumcision appears adequate.

**Figure 3.** Arrow indicates dartos which has been identified and freed from Buck’s fascia on the ventral penile shaft.

**Figure 4.** Note the increase in penile length after relocating the dartos proximally on the shaft (arrow). Note the cut areas of fibrous attachment along the ventral shaft which contribute to concealment.

**Figure 5.** Arrow indicates Scarpa’s fascia retracted from the inferior abdominal wall, just prior to placement of fixation sutures.

**Figure 6.** Dorsal suture placement between Scarpa’s fascia and Buck’s fascia on the dorsum of the penis is documented. Placement of these sutures (arrows) will effectively fix the dorsal aspects of the penopubic annulus without dimpling the peno-pubic area.
RECOVERING OF THE PENILE SHAFT

The penis is redirected dorsally to allow for ventral skin approximation and reconstruction of the median raphe (Figure 7 A-C).

Ventral penile coverage is normalized with the reconstruction of the raphe in a horizontal running fashion. Approximation of the distal skin sheath to the mucosal collar circumferentially completes the reconstruction and presents a protrusive penis. Proximal fixation of the penile annulus allows for this result.

RESULTS AND DISCUSSION:

A review of the preceding 3 years identified 67 patients which formed the basis for the application of this surgical technique. Within this group 43 boys had concealment and previous circumcisions, 15 boys presented de novo, 3 boys had retrusive phallus secondary to overzealous circumcisions, 4 boys had penile entrapment secondary to scarring following circumcision and 2 boys (aged 6 and 10 years) had significant pubic fat deposition. All patients were candidates for this repair as described. Some patients required pretreatment with 2% testosterone propionate ointment in order to achieve interval penile and associated skin growth. Boys who were deprived of sufficient penile skin as a consequence of an overzealous circumcission and those boys with significant pubic fat benefited from this pretreatment.

All surgeries were performed in a day-surgery venue. General anesthesia coupled with a caudal or a dorsal penile block was used. All surgical sites were dressed in two layers. Owen’s gauze was applied directly to the penis with an external strip of Coban. All dressings were removed within 3 or 4 days. No post-operative antibiotics were employed and activity was allowed as tolerated.

Overall, our satisfaction with this surgical approach which incorporates extensive penile dissection, identification of the scrotal dartos and the dorsal Scarpas fascia results in proper surgical fixation of the annulus. This dissection achieves proximal migration of the scrotum and increased apparent penile length. The opportunity to excise scar is easily performed without interference with the desired objective. Fixation was accomplished with 5-0 clear nylon suture. The skin was approximated with 7-0 polyglycolic acid suture.

All patients were evaluated 4 days and approximately 90 days following correction of concealment. All patients experienced the desired effect of a protrusive phallus. No patients required repeat surgical intervention. The application of 2% testosterone propionate facilitated interval growth in three patients with insufficient skin and in the two boys with significant pubic fat deposition. No adverse skin reactions to diaper wetness or infections were encountered.

The descriptive classification for concealed penis was according to Maizels et al. This classification allowed for clarity in description predicated on patient physical findings and serves as a standard for classification. Casale et al clearly identified subtle changes in children with ‘poor suspension’ and that scarring was particularly significant after previous surgery. Obesity clearly contributes to concealment. Penile size in this group appears smaller than the average and the concern of testosterone receptor effectiveness appears questionable. We agree with the observations of Joseph who clearly directed his surgical approach to a two-step approach. First to completely free the corpora from all surrounding tissues that contribute to tethering, and secondly, to transpose all the freed soft tissue to a position ventral on the penile shaft (presumably the scrotal dartos). Inadequacy of attachment of the dartos (spermatic fascia) to the deeper Buck’s fascia was described by Cromie. This failure of the dartos to attach to the mid and proximal shaft was their observation that in their patients resulted in the concealed penis.

Techniques to correct concealment by way of ‘Z’ plasty for penoscrotal webbing are effective in a limited number of cases. Further, use of skin transference by way of unfurling the prepucce and transferring this to the ventrum is an additional approach. This approach is effective if concealment is secondary to insufficient ventral skin. In our experience this would account for a very limited number of patients.

It is apparent that the cause of concealment is a consequence of inadequacy or inappropriate attachment of the skin at the penile annulus. Scarpa’s fascia and Buck’s fascia are critical players. While fat deposition is an additional player in some young children, it appears more a factor in older boys. Many authors describe the importance of radical mobilization of the penile skin with excision of any fibrous tissue that contributes to retrussiveness. Dissection and proximal migration of the dartos of the scrotum allows for posterior migration and apparent penile length.

There is no question that correcting penile concealment facilitates normalized emotional growth for boys. It is critical to preserve self-esteem and will foster normal gender identification. It is further critical that the medical community have a heightened awareness of this condition. This is particularly important for those physicians who are involved in early circumcision procedure. Knowledge of the phenomenon of penile concealment will allow for boys with this condition be treated by surgeons knowledgeable with the fundamental problems and the information and skills to correct them properly.

References
A Simplified Technique for Buried Penis Repair

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Buried penis is a common condition and is often the cause of much parental anxiety. It may be a primary congenital anomaly ranging from mild penoscrotal webbing to the completely trapped penis. Most commonly the parents are not satisfied with the result of the circumcision. Often times they are concerned that too much skin was left following a routine newborn circumcision and occasionally there is even a liability issue implied. Our job as pediatric urology consultants is to diffuse the concern about the buried penis and explain to the parents that it is rarely a pathological condition that requires medical attention. The true medical indications for correction would be those cases in which there is secondary phimosis (prior circumcision), penile skin bridges (as opposed to adhesions), or a truly trapped penis (primary or secondary).

In years past we had often handled the apparent skin excess following a newborn circumcision by excising more skin rather than recognizing the contribution of suprapubic fat, dartos fascia, and the adherence of the penile skin to the shaft of the penis. This would often result in a short-term improvement, but later the parents would return to the office with concerns that the appearance really was not improved. Recognizing the contribution of suprapubic fat and the looseness of the penile skin to the appearance of the penis is essential and greatly improves the outcome should a primary circumcision or a revision of a circumcision be done.

It is important to emphasize to the family that most cases of a concealed penis, whether it is a primary concealed penis or secondary after a circumcision, do not require revision and simple reassurance with an explanation to the family should suffice. However, those boys who have secondary phimosis, skin bridges, recurrent episodes of balanitis, or the inability to stand to void due to spraying of the urinary stream would be candidates for revision. Simple foreskin adhesions have been shown to undergo spontaneous lysis over time, and, therefore, in and of themselves should not require revision. Steroid creams have been shown to be effective with adhesion lysis as well. A skin bridge or adhesion may cause significant chordee, although the latter is rare, would be an indication for revision.

**Technique**

Our technique of repair of a concealed penis involves placing a suture in the glans for traction. One percent lidocaine with 1:100,000 of epinephrine is then instilled along the subcoronal circumferential margin. A subcoronal incision is then made and the penis is degloved circumferentially down to the penopubic and penoscrotal junctions using Buck’s fascia as the plane of dissection. The subcutaneous skin at the base of the penile shaft is then fixed to Buck’s fascia using 5-0 or 6-0 PDS at the 3, 6, and 9 o’clock positions (Figures 1 and 2). The skin is

(continued on the next page)
then pulled up to the coronal margin. If there is any redundant skin, a small amount of the skin is then removed in secondary cases or a primary circumcision of the virgin foreskin is performed. The subcoronal circumferential incision is then closed with interrupted absorbable sutures. Skin deficiencies, if present, are evident after skin fixation at penopubic junction and are usually ventral. In these cases, a Byars wrap may be required.

**Results**

We have previously reported our results with 83 patients who had undergone this repair. Herein we will update our patient population as well as the follow-up. A total of 190 patients have been operated on with at least 1 year follow-up, of which 10 patients were lost to follow-up. The mean follow-up of the 180 patients included in this study was 3.4 years, ranging from 1 to 7 years. Patients were classified into 3 groups for comparison. Group 1 consisted of 60 patients who underwent a buried penis repair along with a primary circumcision. Six of these patients had hypospadias and 13 had penoscrotal webbing as well that was corrected simultaneously. Group 2 consisted of 116 patients who underwent buried penis repair and circumcision revision. Group 3 included 4 patients who underwent liposuction at the time of their buried penis repair. Table 1 indicates the breakdown per group as well as the success rates. As one can see the recurrence rates were 15%, 10%, and 25% for Groups 1, 2, and 3 respectively. Complications from the procedure occurred in 5% (9) of patients and included meatal stenosis, ventral edema which eventually resolved, suture tracts, bleeding requiring re-suturing, and peri-operative yeast infection.

It should be noted that 4 patients in Group 2 underwent a take down of the suspensory ligament to further improve the buried penis. These patients had no complications. One patient in Group 3 developed post-operative lymphedema of the ventral penile shaft skin which required revision 6 months later.

**Discussion**

The buried penis has been classified by Crawford into 3 broad categories consisting of: concealed penis, buried penis (partial/complete), and penoscrotal webbing. Maizels and colleagues then proposed a classification system consisting of 4 categories based on the mechanism of concealment: buried penis, webbed penis, trapped penis and micro-penis. Casale et al reviewed a series of 43 patients and divided their population into 3 groups: congenital, iatrogenic and complex cases with obesity. Their repair required degloving with fixation at the penoscrotal junction and various other reconstructive techniques including penile skin flaps or Z-plasties depending on the length of shaft skin available to use.

Our approach is similar to that which was described by Cromie et al. In each of these approaches, as well as that described by Casale, complete degloving of the skin in which bands of dysplastic dartos tissue which may be tethering the penis are released. Each of these approaches has emphasized the fixation of the penile skin at the penopubic and penoscrotal junctions in a variety of ways.

We have founded this simplified approach of degloving with proximal fixation results in a high success rate with a low recurrence rate, with only a 2.7% requiring a repeat repair. Although not systematically determined, our impression is that parental satisfaction is quite high with this technique as well. We find that this can be done with minimal complications.

**REFERENCES**


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Surgical Management of the Concealed Penis with a Penoscrotal Web

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As already elucidated by the previous authors, the concealed penis presents as a spectrum of etiologic factors. These factors may include excessive deposits of suprapubic fat, poor skin suspension, penoscrotal webs, trapped penis and concealment after prior circumcision. There have been numerous reports detailing surgical correction for penile concealment (see previous references). The surgical repair of the concealed penis with a significant penoscrotal web is a unique situation that requires an approach that differs from the aforementioned techniques presented in this Dialogue. Here I present a novel approach to address those children with significant penoscrotal webbing with or without previous circumcision. This technique involves circumcision, scrotoplasty and adjacent tissue transfer.

It is important to first appreciate that not all phalli with webbing require scrotoplasty. When examining a child with penile concealment and a noted penoscrotal web, I first fully expose the phallus by placing one finger on either side of the penis, pressing downward to see if I can obviate the webbed appearance. If the penis stands up straight and I can visualize a good ventral shaft with this maneuver (See page 4, Firlit, Figure 2), then the technique described by Frenkl and colleagues (see previous references) is appropriate for this child. However, if ventral tethering of the phallus occurs with the aforementioned maneuver, then scrotoplasty is necessary in order to ultimately create a satisfactory ventral shaft (Figure 1A and B).

Technique

The surgical technique involves first retracting the foreskin and making a circumferential incision in the inner prepuce .5 -1 cm below the coronal sulcus. The foreskin is then reduced and stretched superiorly with an Allis clamp while simultaneously another Allis clamp pulls the lower midline of the scrotum at a right angle to the foreskin. This delineates the penoscrotal web and helps to define the actual penile shaft line which is marked out on both sides of the penis creating an inverted V (Figures 2A-C). From the top of the V, a marking line is extended superiorly to the tip of the existing foreskin. All marking lines are then incised and the scrotum is dissected down to its normal anatomic position staying close to the urethra and carrying this incision deep into the subcutaneous tissues while lysing any bands of tissue encountered (Figure 3). Next, with stay sutures on the dorsal foreskin and the glans, the shaft skin which is now completely dorsally situated, is mobilized proximally staying just above Buck’s fascia until all fascial bands attaching to the penis are lysed deep to the penopubic junction and then circumferentially (Figures 4A, B). This allows maximal “unearthing” of the phallus. In cases where the penopubic angle is poorly defined due to either a fat pad or a partial penoscrotal transposition as described by Redman, a suture of 4-0 PDS is place superficially at 12 o’clock in Buck’s fascia and affixes to the corresponding dermis of the penopubic angle. The dorsal skin is then incised in the midline and secured to the mucosal collar with absorbable suture. Byars flaps are swung ventrally on stay sutures and the ventral shaft is now created by transposing the skin into the midline (Figure 5). A deep suture of 4-0 monocryl is placed deep to the scrotum just outside the urethra and secured to the dartos fascia on each side of the newly created penoscrotal junction (Figures 6A,B). A running suture of 4-0 monocryl approximates the subcutaneous layer of the median raphe until the mucosal collar is reached. The midline skin closure is performed with a running horizontal mattress closure of 5-0 monocryl (Figures 7A,B). The scrotum is either repaired as a semilunar transverse closure or a midline closure depending on which provides better cosmesis. The remaining excess foreskin is marked out, excised, and closed with a combination of interrupted and running 5-0 chromic catgut (Figures 8A,B). The phallus is dressed with a bioclusive dressing as in the scrotum.

Experience and Results

A review of the past 6 years revealed 158 boys who underwent surgical reconstruction for a concealed penis with a significant penoscrotal web. Follow-up ranged from 1 month to 3 years (mean 6 months). The ages were 5 months to 11 years with the average age of 7 months. This group comprised 17 patients who necessitated circumcision revision and included five who presented with true cicatrix phimosis. In addition 20 patients had varying degrees of distal hypospadias. Two boys had chordee without hypospadias. Finally, three boys presented with severely entrapped phalli.

Excellent results were obtained in 153 boys with family members very satisfied with the cosmetic outcomes of their sons. Five boys remained concealed, however, their phalli were easily exposed both manually and with erection. Three of the boys were markedly obese, one boy previously had an entrapped penis and one boy had been previously circumcised and had a paucity of shaft skin. All of these patients are being followed expectantly.

Conclusions

This procedure to correct the concealed penis is highly successful, reproducible and cosmetically appealing (Figures 9A-C and 10A,B). Try it, you’ll like it!
Figure 3. Proximal ventral dissection.

Figure 4A. Dorsal dissection.

Figure 4B. Illustration showing dartos band.

Figure 5. Byars flaps transposed.

Figure 6A. Illustration of ventral deep suture.

Figure 6B. Actual ventral deep suture placement.

Figure 7A. Reconstruction of penoscrotal junction.

Figure 7B. Completing scrotoplasty and ventral shaft.

Figure 8A. Completed repair, ventral view.

Figure 8B. Lateral view, completed repair.

Figure 9A. Preop appearance.

Figure 9B. Two weeks postop.

Figure 9C. Three months postop.

Figure 10A. Almost complete penoscrotal web after newborn circumcision.

Figure 10B. Immediately postop.
OUTCOMES OF MANAGEMENT OF NONREFLUX PYELONEPHRITIS

Registration of cases for this study may be done at our secure website www.childrensurology.org.

Please sample the demo (user name PICDEMO / password PICPIC) and then contact tmeyer@childrensmemorial.org to enroll cases.

More about this topic and PIC reflux in an upcoming Dialogues.

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