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Communication:

A new plastic surgical technique for adult congenital webbed penis

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Objective: To introduce a novel surgical technique for correction of adult congenital webbed penis. Methods: From March 2010 to December 2011, 12 patients (age range: 14–23 years old) were diagnosed as having a webbed penis and underwent a new surgical procedure designed by us. Results: All cases were treated successfully without severe complication. The operation time ranged from 20 min to 1 h. The average bleeding volume was less than 50 ml. All patients achieved satisfactory cosmetic results after surgery. The penile curvature disappeared in all cases and all patients remained well after 1 to 3 months of follow-up. Conclusions: Adult webbed penis with complaints of discomfort or psychological pressure due to a poor profile should be indicators for surgery. Good corrective surgery should expose the glans and coronal sulcus, match the penile skin length to the penile shaft length dorsally and ventrally, and provide a normal penoscrotal junction. Our new technique is a safe and effective method for the correction of adult webbed penis, which produces satisfactory results.

Key words: Webbed penis, Plastic surgery, Inconspicuous penis, Penile anomalies

1 Introduction

Webbed penis is a deformity in which the scrotal skin extends onto the ventral penile skin. This disorder can be congenital or acquired. The latter is more common and mainly iatrogenic, caused for example by an overly aggressive removal of skin from the underside of the penis during circumcision. Webbed penis usually causes no problems in children except for poor appearance (Dilley and Currie, 1999; Rudin and Osipova, 2003), so the need for surgery in paediatric patients is still controversial. However, in adults it can cause chordee (Perlmutter and Chamberlain, 1972), discomfort during intercourse, difficulty in placing a condom, and psychological pressure brought about by cosmetic deformity, which can lead to demands for surgery. Converting a transverse penoscrotal incision to longitudinal closure or using the foreskin to augment the penile skin is among the surgical techniques described by others (Shepard *et al*., 1980; Medina López *et al*., 1999; Amano *et al*., 2004; Lee *et al*., 2005; Borsellino *et al*., 2007; El-Koutby and El Gohary, 2010). A circumferential incision made proximal to the coronal sulcus with skin flaps transferred to the ventral side of the penis has also been reported (Perlmutter and Chamberlain, 1972; Amano *et al*., 2004). The scrotum may be anchored to the base of the penis to prevent a recurrence of the webbed appearance (Wein *et al*., 2007; El-Koutby and El Gohary, 2010). In addition, Z-plasty (Medina López *et al*., 1999) and other techniques (Shepard *et al*., 1980; Lee *et al*., 2005) have been reported. However, these techniques are not able to provide satisfactory results for the more complicated cases. We suggest that the pathological anatomy of webbed penis is the adhesion of full-thickness scrotal skin to ventral penile skin and thus we have devised an improved technique by including the release of adhesion of the subcutaneous scrotal tissue from the corpus spongiosum. Using the technique described here we have corrected all forms of webbed penis.

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2 Subjects and methods

2.1 Patients

From March 2010 to December 2011, 12 patients, from 14–23 years old, were diagnosed with webbed penis and included in this study serially. According to El-Koutby and El Gohary (2010) suggested classification of webbed penis (Table 1), 8 cases were classified as simple type webbed penis: Grade 1 (1 case), Grade 2 (3 cases), and Grade 3 (4 cases). The remaining 4 cases were classified as compound webbed penis (Table 2). All patients or/and their parents had complaints and a strong desire for surgery. All of the patients had signed the informed consent form, and all of the surgery had been reviewed and approved by the ethics committee of Sir Run Run Shaw Hospital, School of Medicine, Zhejiang University, China.

2.2 Surgical procedure

For the simple type and compound Type 2 webbed penis, we used the following procedure: patients were supine, and were given epidural anesthesia (Fig. 1). The penis was held gently at nearly a right angle to the abdominal wall. A longitudinal incision was made along the ventral-median raphe from the bump on the penis to the scrotal skin at the level of the upper edge of the pubic symphysis. The skin, subcutaneous tissue, and superficial fascia of the penis were cut in turn. The scrotum thecae, attached to the deep fascia of the penis, were located (Fig. 2). The thecae were cut from the urethral spongiosum and the ventral part of the penile spongiosum such that they became dissociated down to the root of penis. The thecae were then separated from the skin and pushed down to the scrotum. The scrotum skin was trimmed sufficiently to allow extension of the penis skin, and the incision was sewn up.

3 Results

All cases were operated as day-surgery. In all cases the full-thickness of the scrotum was found attached to the penis and urethral spongiosum. The operation time ranged from 20 min to 1 h. The average bleeding volume was less than 50 ml. All patients achieved immediate cosmetic results after surgery (Fig. 3). The penile curvature disappeared and there were no severe complications. Patients remained well after 1 to 3 months of follow-up.

Table 1 Classification of webbed penis*

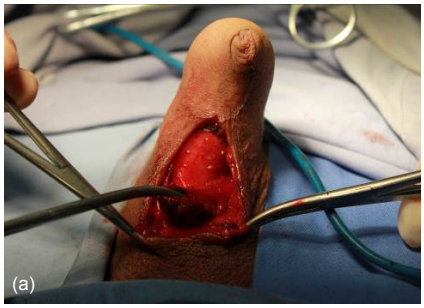
Classification	Characteristics
1. Primary webbed penis	
Simple	
Grade 1	The web extends to the proximal 1/3 of the shaft of the penis
Grade 2	The web extends to the mid 1/3 of the penis
Grade 3	The web extends to the distal 1/3 of the penis
Compound	
Type 1	Web with prepenile scrotum
Type 2	Web with penile curvature
Type 3	Broad web
2. Secondary webbed penis	
Postcircumcision	In obese children or concealed penis

* Modified from El-Koutby and El Gohary (2010)

Table 2 Patients and surgery information

Patient No.	Age (year)	Classification	Chief complaints
Procedure 1			
1	16	Simple, Grade 1	Poor profile/psychological pressure
2	22	Simple, Grade 2	Chordee
3	19	Simple, Grade 2	Difficulty in placing a condom
4	14	Simple, Grade 2	Poor profile/psychological pressure
5	17	Simple, Grade 3	Chordee
6	23	Simple, Grade 3	Discomfort during intercourse
7	22	Simple, Grade 3	Difficulty in placing a condom
8	20	Simple, Grade 3	Difficulty in placing a condom
Procedure 2			
9	18	Compound, Type 2	Chordee
10	21	Compound, Type 2	Difficulty in placing a condom
11	20	Compound, Type 3	Difficulty in placing a condom
12	23	Compound, Type 3	Discomfort during intercourse

Fig. 1 Compound Type 2 webbed penis before operation
The penile curvature and bump in the penis are visible



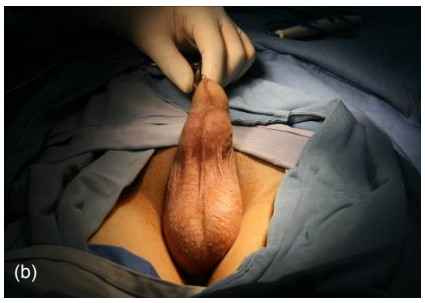


Fig. 2 Separating the scrotum thecae from the spongiosum and skin (a), and complicated type broad web (b)
If there was a broad web (b), the procedure was modified by making an inverted Y-shape incision to separate scrotum and drop it down

Fig. 3 Final view after operation
All patients underwent follow-up within 1 to 3 months after the surgery

4 Discussion

Congenital webbed penis is a disease of penile and scrotal hypoplasia, which can cause poor appearance, pseudo-small penis, and penile curvature, and in severe cases may obstruct penetration. Therefore, the disease can lead to psychological pressure and physical problems. Most cases of congenital webbed penis are too mild to cause sexual dysfunction and can be solved easily by the method of transection and longitudinal suture. Therefore, there have been few studies about this disease, making some doctors believe that webbed penis is a rare anomaly of the external genitalia (Medina López *et al*., 1999; Agrawal *et al*., 2010). El-Koutby and El Gohary (2010) have reported that the incidence of webbed penis is 4%. The surgical method for correcting congenital webbed penis mostly focuses on the reconstruction of the normal appearance of the penis and scrotum. This necessitates the separation of the penis and scrotum through a variety of plastic techniques and the use of the foreskin or scrotal skin to reconstruct the penile skin (Medina López *et al*., 1999; Wein *et al*., 2007; Agrawal *et al*., 2010; El-Koutby and El Gohary, 2010). These techniques are not sufficient for treating complex webbed penis, for straightening the penis, or for separating a broad adhesion of the scrotum and penis spongiosum. As knowledge of surgical cases and related diseases has accumulated, freeing the cavernous body of the penis and urethra has become a good technique for treating abnormalities of the penis and scrotum (Lee *et al*., 2005; Caso *et al*., 2008). The etiology of congenital webbed penis is uncertain at present, but we consider that the fundamental pathological anatomy of the webbed penis is that the ventral penis is covered by the full-thickness of scrotal tissue. The aim of treatment is to free the glans penis, match the penile skin to the penis length after surgery, and restore a normal penis-scrotum angle. As a result, the surgical design principle has been to free the adhesion of the penis and scrotum and obtain a natural appearance using foreskin or scrotal skin. In this paper, we are suggesting a new surgical technique which is easy to learn and which gives good cosmetic results for all types of adult webbed penis.

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Recommended paper related to this topic

Metachronous contralateral testicular and bilateral adrenal metastasis of chromophobe renal cell carcinoma: a case report and review of the literature

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Abstract: Chromophobe renal cell carcinoma (ChRCC) metastatic to the testis has not, to the best of our knowledge, been reported in the literature. Nor have there been reports of delayed bilateral adrenal metastasis of ChRCC. Here we report a case of metachronous contralateral testicular and bilateral adrenal metastasis of ChRCC in a 70-year-old man who underwent right radical nephrectomy for RCC six years ago. He was admitted to the hospital because of left intrascrotal enlargement of two-month duration. Ultrasonography revealed a mass in the upper pole of the left testis. Computed tomography (CT) showed irregular masses in the bilateral adrenal area. Left radical orchiectomy and laparoscopic bilateral adrenalectomy were performed. The pathologic examination showed metastatic ChRCC in the left testis and bilateral adrenal gland. Postoperative follow-up showed that the patient had survived for at least 56 months without recurrence. The case highlights the unique behavior of RCC with an unusual site of metastasis and favorable survival after multiple metastasectomy.