



Penile rotation and penoscrotal transposition associated with hypospadias and bifid scrotum: A case report

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Abstract Penoscrotal transposition is a rare anomaly of the external genitalia that can be complete or incomplete while incomplete type is more common. Penile torsion is a rotational defect of the penile shaft. Various surgical methods are described for correction of incomplete penoscrotal transposition and penile torsion. Here we are presenting our experience of case of incomplete penoscrotal transposition and penile torsion correction.

Key Words Penoscrotal transposition; penile torsion; children; hypospadias.

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INTRODUCTION

Bifid scrotum is usually associated with penoscrotal hypospadias and it is a rare congenital anomaly. It can be partial or complete. Selection of surgery is based on the severity of transposition and

hypospadias. Various methods for surgical correction have been proposed for penoscrotal transposition [1]. Conventional surgical repair includes rotation of two scrotal flaps, joining them in the midline, and vertical skin closure [2]. The two-stage repair for severe proximal hypospadias has gained wide popularity due to its lower complication rates [3-5]. Penile torsion is a rotational defect of the penile shaft.

Abnormal penile rotation, usually counterclockwise, is seen independently or in association with other penile anomalies such as hypospadias [6].

Here we are presenting our experience of a case of incomplete penoscrotal transposition and penile torsion correction.

CASE REPORT

A 12 year old boy presented with incomplete penoscrotal transposition along with penile rotation (Fig 1A, B).

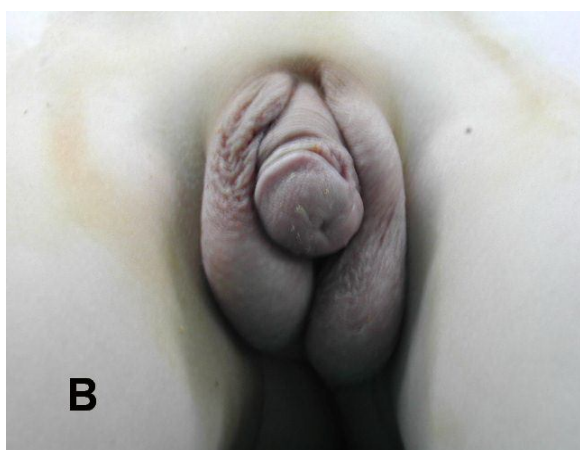


Fig. 1. A, B. Preoperative condition of penile torsion and penoscrotal transposition.

His hypospadias had been repaired previously in another center. He had a normal karyotype with no accompanying deformity. In our case, in correction of the penoscrotal transposition and the penile rotation were performed reorienting the scrotum inferiorly with limited rotation, flaps joining them in the midline, and vertical skin closure (Figure 2). Postoperative result was satisfactory.



Fig. 2. Appearance of penis and scrotum after surgical repair.

DISCUSSION

Bifid scrotum has been well established as a phenotype of the partial androgen insensitivity syndrome [7]. The embryologic results may cause incomplete or failed inferomedial migration of the labioscrotal

swellings. Penoscrotal transposition may be partial or complete with its less severe forms having been termed bifid scrotum, doughnut scrotum, prepenile scrotum, and shawl scrotum. Frequently, this condition occurs in conjunction with perineal, scrotal, or penoscrotal hypospadias [8]. Penoscrotal transposition has also been associated with caudal regression, sex chromosome abnormalities, and Aarskog syndrome [9-11]. In the majority of patients with penoscrotal have a significant urinary tract abnormality such as renal agenesis and dysplasia [12,13].

Usual surgical repair includes rotation of two scrotal flaps, joining them in the midline, and vertical skin closure [2]. Additionally, there are surgical techniques such as reorienting the scrotum inferiorly with limited rotation flaps, inguinal based groin flaps and transposition of the penis superiorly in a planned two-stage approach [2,14,15]. Some authors have reported on incorporating urethroplasty and transposition

in a single-stage procedure particularly if the Koyanagi procedure is used [7,16].

Congenital penile torsion is an anomaly of unknown cause. In this anomaly, there is a three-dimensional malrotation of the corporal bodies or sometimes just the glans. The abnormal penile rotation is usually counterclockwise, in generally on the left side [17], and many times associated with chordee and hypospadias. The incidence of isolated penile torsion is 1.7–27%, with torsion of more than 90 degrees reported in 0.7% of cases [18,19]. Torsion of the penis varies between 30 degrees and 180 degrees. The defect is often correctable by penile degloving and realignment of the median raphe. In our case, hypospadias repair has been performed previously in another center. In this case, penile torsion and penoscrotal transposition of patient were treated in the same session. In our case, reorienting the scrotum inferiorly with limited rotation, flaps joining them in the midline, and vertical skin closure were performed. No

complications were observed after treatment. Two-stage method of treatment may allow less complication. This approach is very

caring and can be very useful in appropriate cases.

REFERENCES

1. Mokhless I, Youssif M, Eltayeb M, Hanna M. Z-plasty for sculpturing of the bifid scrotum in severe hypospadias associated with penoscrotal transposition. *J Pediatr Urol.* 2011;7:305-9.
2. Glenn JF, Anderson EE. Surgical correction of incomplete penoscrotal transposition. *J Urol.* 1973;110:603-5.
3. Gershbaum MD, Stock JA, Hanna MK. A case for 2-stage repair of perineoscrotal hypospadias with severe chordee. *J Urol.* 2002;168:1727-8.
4. Arena F, Romeo C, Manganaro A, Arena S. Surgical correction of penoscrotal transposition associated with hypospadias and bifid scrotum; our experience of two-stage repair. *J Pediatr Urol.* 2005;1:289-94.
5. Bracka A. Hypospadias repair: the two-stage alternative. *Br J Urol.* 1995;76:31-41.
6. AAA Zeid, H Soliman. Penile Torsion: an Overlooked Anomaly with Distal Hypospadias *Annals of Pediatric Surgery.* 2010;6:93-7.
7. Perovic S, Vukadinovic V. Penoscrotal transposition with hypospadias: 1-stage repair. *J Urol.* 1992;148:1510-3.
8. Pinke LA, Rathbun SR, Husmann DA, Kramer SA. Penoscrotal transposition: review of 53 patients. *J Urol.* 2001;166:1865-68.
9. Lage JM, Driscoll SG, Bieber FR. Transposition of the external genitalia associated with caudal regression. *J Urol.* 1987;138:387-9.
10. Yamaguchi T, Hamasuna R, Hasui Y, Kitada S, Osada Y. 47,XXY/48,XXY,+21 chromosomal

- mosaicism presenting as hypospadias with scrotal transposition. *J Urol.* 1989;142:797-8.
11. Shinkawa T, Yamauchi Y, Osada Y, Ishisawa N. Aarskog syndrome. *Urology.* 1983;22:624-6.
12. MacKenzie J, Chitayat D, McLorie G, Balfe JW, Pandit PB, Blecher SR. Penoscrotal transposition: a case report and review. *Am J Med Genet.* 1994;49:103-7.
13. Parida SK, Hall BD, Barton L, Fujimoto A. Penoscrotal transposition and associated anomalies: report of five new cases and review of the literature. *Am J Med Genet.* 1995;59:68-75.
14. Levy JB, Darson MF, Bite U, Kramer SA. Modified pudendal-thigh flap for correction of penoscrotal transposition. *Urology.* 1997;50:597-600.
15. Kolligian ME, Franco I, Reda EF. Correction of penoscrotal transposition: a novel approach. *J Urol.* 2000;164:994-6.
16. Koyanagi T. Repair of severe proximal hypospadias associated with bifid scrotum. *Int Urol Nephrol.* 1984;16:115-21.
17. Hsieh JT, Wong WY, Chen J, Chang HJ, Liu SP. Congenital isolated penile torsion in adults: untwist with plication. *Urology.* 2002;59:438-40.
18. Ben-Ari J, Merlob P, Mimouni F, Reisner SH. Characteristics of the male genitalia in the newborn: penis. *J Urol.* 1985;134:521-2.
19. Sarkis PE, Muthurajan S. Incidence and predictive factors of isolated neonatal penile glanular torsion. *J Pediatr Urol.* 2007;3:495-9.