

PENILE TORSION OF A TWO-YEAR-OLD BOY: A CASE REPORT

¹Fikri Alam Riza Putra, Besut Daryanto, Pradana Nurhadi.

¹ Department of Urology, Faculty of Medicine/University of Brawijaya, Saiful Anwar General Hospital, Malang.

ABSTRACT

Objective: This case report presented Penile Torsion in pediatrics. **Case(s) Presentation:** A two-year-old boy with a chief complaint of rotated penile to the right side since birth. There were 45° in clockwise torsion, slight chordee, and uncircumcised. Patient underwent penile reconstruction surgery, including penile degloving, urethral mobilization, and plication. After seven days follow-up, parents were satisfied with straight penile erection and no torsion at all. After 3 months follow-up, parents reported satisfaction with the surgical outcome such as cosmetic appearance, straight erection, and normal stream urine. **Discussion:** Surgical techniques ranging from simple penile degloving with foreskin repositioning to more complex surgical procedure involving corporeal tissue. Surgery by using degloving of penile skin and realignment could be suitable for penile torsion <90°. For the cases of >90°, other techniques should be considered such as corporopexy procedure, rotation flap of dorsal dartos, or diagonal suturing of corporeal folds away from and parallel to the neurovascular bundle. **Conclusion:** Penile reconstruction surgery using penile degloving, urethral mobilization, and plication for penile torsion showed satisfaction result including cosmetic appearance, penile erection, and normal urine flow.

Keywords: Chordee, penile reconstruction, penile torsion.

ABSTRAK

Tujuan: Laporan kasus ini menggambarkan Torsio Penis pada pediatri. **Presentasi Kasus:** Seorang anak laki-laki berusia dua tahun dengan rotasi penis ke arah kanan sejak lahir. Didapatkan torsio 45° searah jarum jam, minimal chordee, dan belum sirkumsisi. Pasien dilakukan operasi rekonstruksi termasuk degloving penis, mobilisasi uretra dan plikasi. Setelah tujuh hari, orang tua merasa puas dengan ereksi penis yang lurus dan tidak ada torsio. Setelah 3 bulan, orang tua menyampaikan kepuasan dengan hasil operasi seperti penampilan kosmetik penis, ereksi lurus, dan pancaran urin normal. **Diskusi:** Teknik bedah bervariasi mulai dari degloving penis dengan reposisi kulit penis hingga prosedur bedah yang lebih kompleks yang melibatkan jaringan korporeal. Pembedahan dengan menggunakan degloving kulit penis dan reposisi kulit penis dapat digunakan untuk torsio penis <90°. Untuk kasus >90°, teknik lain harus dipertimbangkan seperti prosedur corporopexy, flap rotasi dartos dorsal, atau penjahitan diagonal lipatan korporeal menjauhi dan sejajar dengan neurovascular bundle. **Simpulan:** Operasi rekonstruksi penis menggunakan degloving penis, mobilisasi uretra, dan plikasi untuk torsio penis menunjukkan hasil yang memuaskan termasuk penampilan kosmetik penis, ereksi penis, dan pancaran urin yang normal.

Kata Kunci: Chordee, rekonstruksi penis, torsio penis.

Correspondence: Besut Daryanto; c/o: Departement of Urology, Faculty of Medicine/University of Brawijaya, Saiful Anwar General Hospital. Jl. Jaksa Agung Suprpto No.2 Klojen, Kota Malang, Jawa Timur 65112. Indonesia. Phone: +6282233678283. Fax: +62341333030. Email: urobess.fk@ub.ac.id.

INTRODUCTION

The condition of penile torsion was firstly identified in 1973 by Horton and Devin. Penile torsion is an abnormality, accompanied by penile shaft rotation, and usually counterclockwise (rotated to left side) in 96% of all cases, which could be congenital disease or acquired after repair of hypospadias or circumcision.¹⁻²

Congenital penile torsion has incidence rate between 1.7 until 27%, including mild torsion (79.5%), moderate torsion (18.5%) and severe torsion (2%). According to glanular angulation degree, there are three categories of penile torsion, mild (<45°), moderate (45°-90°), or severe (>90°). Some cases are associated with other congenital penile anomalies, including chordee (4–10% of birth of male).³⁻⁶

The etiology of torsion of penis still remains unknown. Some studies have found that the potential etiologies of penile torsion are the unequal growth of cavernosal bodies and the abnormality from skin and dartos fascia attachment during development. However, these theories cannot explain counterclockwise torsion.⁷

There are two main indications for penile reconstruction i.e., cosmetic and functional problems. Despite mostly of the cases have no symptoms, parents usually still want to achieve better cosmetic appearance. Total sixty percent of patients with penile torsion did surgery for cosmetic reasons.⁸⁻⁹

There are several correction techniques of penile torsion including penile degloving technique, rotation of flap of dorsal dartos, procedure of suturing of tunica albuginea to the periosteum of pubic, untwisting sutures of the plication, and the step of mobilization of urethral plate and urethra. More serious complications and morbidities could be encountered in more complicated repairs, e.g., hematoma, bleeding, injury to neurovascular bundle and penile shortening.¹⁰⁻¹²

CASE(S) PRESENTATION

A two-year-old boy visited urology clinic in Saiful Anwar General Hospital complaining of rotated penile to the right side since birth. There were a clockwise 45° rotation of the penis with chordee and uncircumcised condition (Figure 1).

Penile was placed in a circumferential incision and the penile degloving was performed, followed by an erection test with a positive result, an erection was obtained, penile torsion was at eight o'clock. Then, after the urethral mobilization, penile torsion was obtained at seven o'clock and followed by plication on the counter torsion of the penis, followed by an erection test with a positive result, an erection was obtained, and no torsion at all. Then bleeding control was performed and continued with skin reattachment with Monocryl 5.0 interrupted suture (Figure 2).

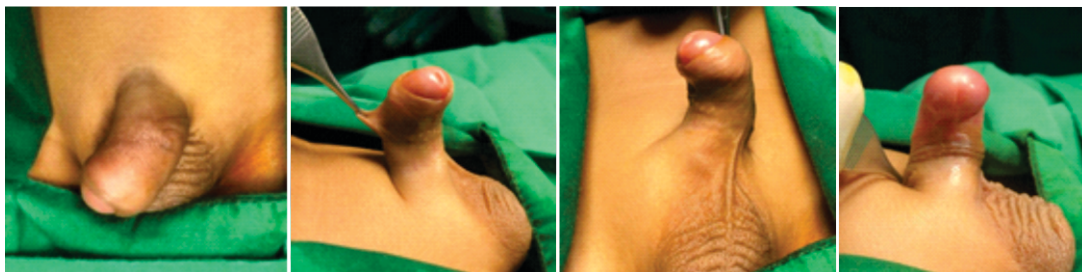


Figure 1. Clockwise 45° penile torsion.

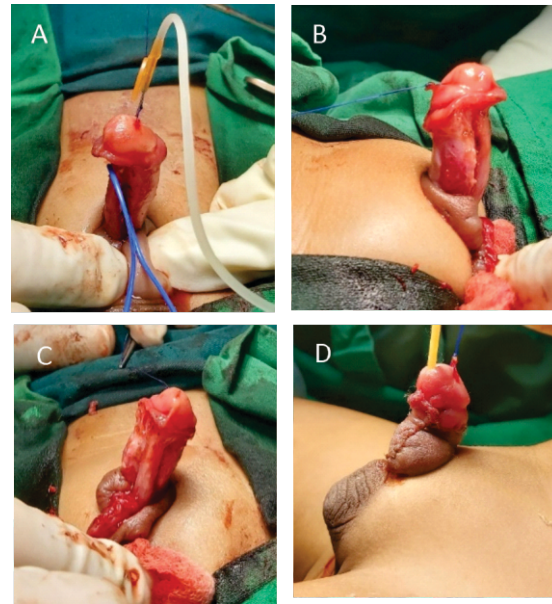


Figure 2. Operation Procedure. (A) Penile degloving and chordee release (B) Urethral mobilization. (C) Plication of the contralateral side (D) Skin Reattachment

The following seven days after surgery, the patient's parents were satisfied with the result i.e., the degree of penile erection and absence of penile rotation (Figure 3).



Figure 3. 7th days post operative.

The following three months after surgery, parents were satisfied with the surgical results such as cosmetic appearance, penile erection, and normal urine flow (Figure 4).



Figure 4. 3rd months post operative.

DISCUSSION

Indications for intervention in penile torsion are cosmetic and functional. Most children who have penile torsion have no symptoms. In a survey conducted by Shaeer in 2008, it was found that penile torsion occurred in 12% of patients, 80% of those had a mild curvature abnormality, 5% had penile torsion of $>60^\circ$, and 2% of these patients asked for cosmetic surgery repair. There was no patient encounter sexual dysfunction associated to the torsion of penis.¹³

Several techniques of surgery had been introduced for penile torsion correction, but none of them could be considered as the ideal, optimal, and versatile technique for the surgical management of penile torsion. These surgical techniques ranging from simple penile degloving with foreskin repositioning to more complex surgical procedure involving corporeal tissue. The correction surgery for torsion of penile shaft by using degloving of penile skin and realignment could be suitable for mild torsion (less than 90°).¹⁴ However, for the cases of $>90^\circ$, other techniques should be considered such as corporopexy procedure (suturing of tunica albuginea to the periosteum of pubic), the rotation of flap of dorsal dartos, or suturing of diagonal of corporeal folds away from and parallel to the bundle of neurovascular.⁷

Recently, some researchers have recommended penile degloving and skin reattachment as the proper surgical correction procedure for mild to moderate torsion of penis. Meanwhile, penile degloving technique alone could only correct as little as 3.7% of cases. The other responsible factors for torsion of penis, such as corpus spongiosum attachment with urethral plate

toward corporeal body and glans. Procedure of these mobilization would lead to release of traction and correction of the torsion of penis in 87.5% of all cases.¹⁵

In this case report, the patient suffered from moderate penile torsion (between $45-90^\circ$) and was treated by penile degloving technique, continued with bulbar urethral mobilization and plication of penile counter-torsion with the result showed no torsion. This technique is effective for mild to moderate penile torsion.

CONCLUSION

In this case report, patient underwent penile degloving, urethral mobilization, and plication for penile torsion. The surgical results after three months showed satisfying condition such as cosmetic appearance, penile erection and normal urine flow.

REFERENCES

1. Devine CJ, Jr. and Horton CE. Chordee without hypospadias. *J. Urol.* 1973; 110: 264.
2. Elbatarny AM and Ismail KA. Penile torsion repair in children following a ladder step: simpler steps are usually sufficient. *Journal of Pediatric Urology.* 2014; 10(6): 1187-1192.
3. Ben Ari J, Merlob P, Mimouni F, Reisner SH. Characteristics of male genitalia in the newborn. *J Urol.* 1985; 134: 521-522.
4. Eroglu E and Gundogdu G. Isolated penile torsion in newborns. *Canadian Urological Association Journal.* 2015; 9(11-12): E805.
5. Culp OS and McRoberts JW. Hypospadias. In *Encyclopedia of Urology.* Alken CE, Dix VW, and Goodwin WE, Eds. Springer-Verlag, New York. 1968: 11307-11344.
6. Kramer S, Aydin G, and Kelalis P. Chordee without hypospadias in children. *J. Urol.* 1982; 128: 559-561.
7. Zhou, L., Mei, H., Hwang, A.H., Xie, H.W. and Hardy, B.E. 2006. Penile torsion repair by suturing tunica albuginea to the pubic periosteum. *Journal of Pediatric Surgery.* 2006; 41(1): e7-e9.
8. Bauer R, Kogan BA. Modern technique for penile torsion repair. *J Urol* 2009; 182:286e90.
9. Bar-Yosef Y, Binyamini J, Matzkin H, Ben-Chaim J. Degloving and realignment- simple repair of isolated penile torsion. *Urology* 2007; 69: 369e71.
10. Bhat A, et al. The Incidence of Isolated Penile Torsion in North India: A study of 5018 male neonates. *J Ped Urol*; 2017.
11. Elbatarny AM, Ismail KA. Penile torsion repair in children following a ladder step: Simpler. *Jurnal Kedokteran Mulawarman*, 2018; 6(3).

12. Gunduz M, Ciftci I. Isolated Penile Torsion in Brothers: A Case Report. *Archive of Clinical Experimental Surgery* 2012; 1: 122-124.
13. Shaeer O. Torsion of the penis in adults: prevalence and surgical correction. *J Sex Med* 2008; 5:.735.
14. Azmy A, Eckstein HB. Surgical correction of torsion of the penis. *Br J Urol* 1981; 53:.378–379.
15. Bhat A, Bhat M, and Saxena G. Correction of penile torsion by mobilization of the urethral plate and urethra. *J. Pediatr. Urol.* 2009; 5: 451–457.