

Buried penis secondary to ectopic scrotum

B. Fernández Bautista, R. Ortiz, L. Burgos, I. Bada, J.M. Angulo

Gregorio Marañón University Hospital. Madrid (Spain).

ABSTRACT

Introduction. Ectopic scrotum is a rare clinical entity, potentially associated with other congenital abnormalities. We present the case of a patient with buried penis secondary to ectopic scrotum. The surgical technique was described, and a literature review was carried out.

Clinical case. 1-year-old patient with ectopic right hemiscrotum and the testes within the scrotal sac. A double Z-plasty was performed with two flaps – one above the penis, surrounding the ectopic scrotum, and the other one at the scrotum to modify the bifid scrotum. The upper flap was rotated downwards, which allowed ectopy to be repaired, and the lower flap was used to repair bifidity. No postoperative complications were recorded. Follow-time was 6 months, with good final cosmetic results.

Discussion. Ectopic scrotum is an infrequent congenital malformation. Cutaneous rotation flaps with Z-plasties are a valid treatment option, with good long-term cosmetic results.

KEY WORDS: Ectopic scrotum; Rotation flaps; Z-plasty.

PENE OCULTO SECUNDARIO A ECTOPIA ESCROTAL

RESUMEN

Introducción. La ectopia escrotal constituye una entidad clínica rara, que puede asociar otras anomalías congénitas.

Presentamos el caso de un paciente con un pene oculto secundario a una ectopia escrotal, con descripción de la técnica quirúrgica y revisión de la literatura.

Caso clínico. Paciente de un año de vida que presentaba un hemiescrotum derecho ectópico con testes en bolsa. Se diseñó una doble Z-plastia con realización de dos colgajos, uno suprapeneano rodeando el escroto ectópico y otro escrotal para modificar el escroto bífido. El colgajo superior se rotó hacia abajo corrigiendo la ectopia y el colgajo inferior corrigió la bifidez. No se produjeron

complicaciones posoperatorias. El tiempo de seguimiento fue de seis meses con buen aspecto estético final.

Comentarios. El escroto ectópico es una malformación congénita infrecuente. Los colgajos de rotación cutáneos con Z-plastias son una opción válida de tratamiento con buenos resultados estéticos a largo plazo.

PALABRAS CLAVE: Escroto ectópico; Colgajos de rotación; Z-plastia.

INTRODUCTION

Ectopic scrotum is a rare clinical entity, often associated with other congenital abnormalities⁽¹⁾.

It involves an abnormal position of the scrotum, which may be found anywhere in the inguinal region, associated with an abnormal fixation of the gubernaculum during embryonic development. The suprainguinal position is the most frequent one⁽²⁾.

We present the case of a patient with ectopic hemiscrotum which caused buried penis, without other associated malformations. The surgical technique was described, and a review of the current literature was carried out.

CLINICAL CASE

We present the case of a 6-month old patient who had been previously assessed by the pediatrician as a result of scrotal malposition associated with a small penis.

The patient was treated with intramuscular testosterone – three doses in three months – and was referred to our institution for assessment purposes. Karyotype was XY.

At exploration, the patient had right ectopic hemiscrotum, with the testes within the scrotal sac, which caused scrotal asymmetry. The penis had a normal size, with a tip-shaped urethral meatus (Fig. 1).

The patient underwent surgery at 1 year of age.

DOI: 10.54847/cp.2022.04.21

Corresponding author: Dra. Beatriz Fernández Bautista. Gregorio Marañón University Hospital. C/ O'Donnell, 48. 28009 Madrid (Spain)

E-mail address: bea.bfb89@gmail.com

Date of submission: February 2022 Date of acceptance: August 2022



Figure 1. Scrotal malformation characteristics.

For the surgical approach, a double Z-plasty was carried out with two flaps – one above the penis, surrounding the ectopic scrotum, and the other one at the scrotum to modify the bifid scrotum caused by the ectopic scrotum (Fig. 2).

The upper flap was rotated downwards, which allowed ectopy to be repaired, and the lower flap was used to repair bifidity (Fig. 3).

No intraoperative or postoperative complications were recorded.

The patient remained in hospital for 24 hours.

A bladder probe and a dressing were left in place for 48 hours, with good progression.

Follow-time was 6 months, with good final cosmetic results (Fig. 4).

DISCUSSION

Ectopic scrotum is a rare entity within pediatric urology. It may occur in an isolated fashion or most often associated with other congenital pathologies such as ipsilateral urological malformations, anorectal malformations, bladder exstrophy, or inguinal hernia, among others^(3,4).

It may be located at multiple places, from the perineum and the inguinal canal to the thighs, but it is most often found at the inguinal, suprainguinal, and infrainguinal regions⁽¹⁾.

Ectopic scrotum is different from accessory scrotum, which has also been described in some publications. The latter is not associated with intrascrotal testis, and typically requires the hemiscrotum to be removed⁽⁵⁾.

Regarding the physiopathology of ectopic scrotum, various theories have been proposed. According to one of them, it is caused by an abnormal formation and fixation of the gubernaculum, i.e., because some abnormal endings of the gubernaculum are fixated in an ectopic position, outside the inguinal path through which the testes usually descend⁽⁶⁾.

Since it is commonly associated with other urological abnormalities, careful exploration and imaging tests – mainly abdominal ultrasonography – are strongly recommended to rule them out⁽⁷⁾.

In terms of surgical approach, the cutaneous design for ectopic scrotum repair may prove complex. Various surgical techniques have been described, from hemiectopic scrotum removal and testis mobilization towards the opposite



Figure 2. Preoperative design.



Figure 3. Immediate postoperative result.



Figure 4. Late postoperative result.

hemiscrotum, to Z-plasties and cutaneous rotation flaps⁽⁸⁾. I. Wahyudi et al. recently published a one-stage scrotoplasty with rotation flap, with good results⁽⁹⁾. M.E. Carazo et al. described a repair technique involving removal of the skin and the subcutaneous cell tissue between both hemiscrotums, while medially displacing the ectopic scrotum⁽⁷⁾.

Owing to the rarity and variability of this entity, no standard treatment has been established yet. A good preoperative design is required to improve long-term cosmetic results.

In conclusion, ectopic scrotum is an infrequent congenital malformation that may be associated with other genitourinary malformations. Repair is uneasy and requires prior surgical planning. Cutaneous rotation flaps with Z-plasties are a valid treatment option, with good long-term cosmetic results.

REFERENCES

1. Kumar V, Marulaiah M, Chattopadhyay A, Rao PL. Unilateral inguinal ectopic scrotum with covered exstrophy. *Pediatr Surg Int.* 2002; 18(5-6): 511-3.
2. Jehannin B, Navarro JM, Parent P, Charles JF. [Unilateral supra-inguinal ectopic scrotum]. *Chir Pediatr.* 1983; 24(3): 213-5.
3. Hasan S, Mitul AR, Karim S. Ectopic Scrotum with VACTERL Association. *J Neonatal Surg.* 2017; 6(2): 36.
4. Moorthy HK, Pillai BS, Rathore RS, Mehta N. Ectopic scrotum: A unique case report. *Can Urol Assoc J.* 2015; 9(9-10): E665-6.
5. Fitouri F, Chebil N, Ben Ammar S, Sahli S, Hamzaoui M. Accessory Scrotum. *Fetal Pediatr Pathol.* 2020; 39(1): 90-1.
6. Hoar RM, Calvano CJ, Reddy PP, Bauer SB, Mandell J. Unilateral suprainguinal ectopic scrotum: the role of the gubernaculum in the formation of an ectopic scrotum. *Teratology.* 1998; 57(2): 64-9.
7. Carazo Palacios ME, Serrano Durba A, Pemartin Comella B, Domínguez Hinarejos C. [Ectopic scrotum: Clinical presentation and surgical treatment]. *An Pediatr (Barc).* 2017; 87(2): 119-20.
8. Guha SC. Unilateral ectopic scrotum. *Br J Plast Surg.* 1979; 32(2): 91-2.
9. Wahyudi I, Deswanto IA, Situmorang GR, Rodjani A. One stage rotation flap scrotoplasty and orchidopexy for the correction of ectopic scrotum: A case report. *Urol Case Rep.* 2019; 25: 100886.