

Epispadias Presenting as a Concealed Penis: Case Report

Gömülü Penis Şeklinde Ortaya Çıkan Epispadyas

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ABSTRACT Epispadias is one of the rarest congenital urological anomalies. In epispadias, prepuce is usually a redundant tissue located on the ventral part of penis. Diagnosis is easily made on physical examination. The presence of a complete prepuce associated with epispadias is rare, and diagnosis can be difficult. A 2.5-year-old male patient was admitted to our center for circumcision. Preputial skin was intact and patient presented with a concealed penis. In this paper, we report an unusual case with epispadias and a concealed penis. The patient was managed with a one-stage reconstruction.

Key Words: Epispadias; physical examination; penis

ÖZET Epispadyas en nadir doğumsal ürolojik anormalliklerden birisidir. Epispadyasta sünnet derisi genellikle penisin ön kısmında yerleşmiş fazlalık bir dokudur. Epispadyasla ilişkili tam bir sünnet derisinin varlığı nadirdir ve tanı zor olabilir. İki buçuk yaşında bir erkek hasta merkezimize sünnet için kabul edildi. Sünnet derisi sağlamdı ve hasta gömülü bir penisle karşımıza çıktı. Bu olgu sunumunda epispadyas ve gömülü penisi olan sıradışı bir olguyu sunuyoruz. Hasta tek aşamalı bir rekonstrüksiyonla tedavi edildi.

Anahtar Kelimeler: Epispadyas; fizik muayene, beden muayenesi; penis

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Isolated male epispadias is a rare urogenital anomaly, with a reported incidence of 1 in 117 000 males, that makes this one of the rarer congenital urological anomalies.¹ The presence of a complete prepuce associated with epispadias has been described in very few patients.²⁻⁵ In epispadias, prepuce is usually a redundant tissue located on the ventral part of penis. There is usually a dorsally diverted preputial opening. Diagnosis is easily made on physical examination. However, in the case of intact prepuce, diagnosis can be difficult. We report an unusual case with epispadias and a concealed penis.

CASE REPORT

An otherwise healthy 2.5-years-old boy was admitted to our center for circumcision. The child was able to void without difficulty. On physical ex-

amination, a concealed penis was detected. Both testicles were palpated in normal size and consistency in scrotum. The penis was short and concealed within an intact prepuce. The prepuce was tightly phimotic and cannot be retracted, so the glans could not be seen (Figure 1). However, the glans was felt with a cleft on its dorsum. The glans was exposed with retraction of prepuce under anesthesia. The epispadias was seen just proximal to the corona (Figure 2). A circumferential incision around the corona was performed. Since epispadias was confined to glans, one-stage repair of the epispadias was performed. The chordee was released by taking down the skin and urethral plate was tubularized over a catheter. The prepuce was used to cover the shaft (Figure 3).

There were no other clues about epispadias such as pubic diastasis or shortening of the distance



FIGURE 1: Concealed penis.

(See for colored form <http://tipbilimleri.turkiyeklinikleri.com/>)



FIGURE 2: Epispadias with a concealed penis.

(See for colored form <http://tipbilimleri.turkiyeklinikleri.com/>)



FIGURE 3: Appearance after one-stage repair.

(See for colored form <http://tipbilimleri.turkiyeklinikleri.com/>)

between the umbilicus and the pubic symphysis. After surgical repair, ultrasound of the abdomen did not reveal any other anomalies of the urogenital tract.

DISCUSSION

Isolated male epispadias is an exceedingly rare genital malformation and usually a part of bladder exstrophy.⁴ Epispadias may be glanular, penile or penopubic; glanular being the rarest type.¹ The preputial skin is usually absent dorsally. Embryological theories of epispadias have sought to explain the eventration of the urethra and bladder in the combined exstrophy-epispadias complex, and the dorsal location of the penile defect as opposed to the ventral defect in hypospadias. The embryology of hypospadias is consistent with simple developmental arrest of urethral closure. However exstrophy-epispadias complex is related with the inhibition of the normal migration of mesoderm toward the midline from the infraumbilical abdominal wall. Various theories have been put forward regarding the development of the prepuce. In one explanation, the formation of the distal glanular urethra may occur by a combination of two separate processes: the fusion of urethral folds proximally and the ingrowth of ectodermal cells distally. It is generally thought that epithelium of

the fossa navicularis results from an ingrowth of surface ectoderm as far proximally.⁵ It was suggested that the entire penile urethra might differentiate from the fusion of the endodermal urethral groove through the mechanism of epithelial-mesenchymal interactions.⁶

The exposed urethral plate interferes with the circumferential ingrowth of epithelium. By itself, this theory of prepuce formation fails to explain the occurrence of epispadias with complete prepuce. In another theory, the prepuce grows forward from proximal superficial tissues to cover the previously naked glans penis. Later, desquamation of the epidermal cells between the two frees the previously adherent prepuce.⁴ Hunter showed that growth rate of the ectodermal tissue is more rapid as compared with the mesodermal portions of the penis.⁷ This theory allows for a complete prepuce in the

setting of a distal dorsal urethral defect.⁴ According to McCahill et al., if the epispadias is distal enough, a fold of skin can arise from below the corona to cover the naked glans and urethral plate.³ As in our case, urethral defect over glans penis may be short enough for the skin to cover the glans completely. Clinically there is also a close correlation between the development of the urethra and the prepuce. Whenever there is a developmental defect in urethra, the prepuce also fails to develop in the correct manner.

Primary care physicians and those who perform circumcisions must be alert for the possibility of urogenital anomalies like megameatus with an intact prepuce and hypospadias or epispadias. Before any circumcision, the prepuce should be fully retracted and the glans and urethral meatus should be carefully inspected.

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