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Our urethrocutaneous fistula repair results in adults after hypospadias surgery

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KEYWORDS
Hypospadias;
Fistula repair;
Adult;
Fistula size

Abstract
Introduction: Our aim was to evaluate and share our urethrocutaneus fistula repair results in adult patients who had been operated for hypospadias in their childhood.
Material and methods: The data of totally 48 patients who had been treated for urethrocutaneous fistula after hypospadias surgery in our department from May 2008 to January 2015 analyzed retrospectively. Patients' age at fistula repair, age at first hypospadias surgery, fistula size, localization and number, distal urethral obstruction status and surgical outcomes of fistula repairs were recorded. All patients were controlled three months after the repair for surgical outcomes.
Results: Fistula repair performed in 45 patients. Mean age was 21.46 (20–26). Nineteen patients (42.2%) underwent first hypospadias surgery under the age of 7 years; 8 patients (17.7%) between 7 and 15 years, 18 patients between 15 and 20 years. Tubularized incised plate urethroplasty (TIPU) was performed in 40 patients (88.9%), extragenital tissue was used in 5 patients (11.1%). Twenty two patients (48.9%) had 1 or 2 operations, 17 patients (37.8%) had 3–5 operations and 6 patients (13.3%) had 6 or more operations. Thirteen (28.9%) coronal, 24 (53.3%) subcoronal, 6 (13.3%) penile and 2 (4.4%) penoscrotal fistulas were observed. While a single fistula was observed in 35 patients, multiple fistulas were seen in 10 patients. A fistula diameter les than 5 mm was detected in 37 patients, and larger than 5 mm in 8 patients. Fistula recurrence was observed in 3 patients at follow-up examinations carried out at 3 months postoperatively. The number of operations was more than 5, the fistula diameter was larger than 5 mm and the fistulas were coronal in all three recurrent fistulas.

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Conclusion: According to our results fistula size, previous surgery and well-vascularised, one or two layer tissue were the important factors in the success of fistula repair after hypospadias surgery.

PALABRAS CLAVE
Hipospadias;
Reparación de la fístula;
Adulto;
Tamaño de la fístula

Nuestra reparación de fístula uretrocutánea resulta en adultos después de la cirugía de hipospadias

Resumen
Introducción: Nuestro objetivo fue evaluar los resultados de la reparación de la fístula uretrocutánea en pacientes adultos que habían sido operados por hipospadias en su infancia.
Materiales y métodos: Los datos de los pacientes que habían sido tratados por fístula uretrocutánea después de la cirugía de hipospadias en nuestro departamento de mayo de 2008 a enero de 2015 analizaron retrospectivamente. Se registraron la edad de los pacientes en la reparación de la fístula, la edad en la primera cirugía de hipospadias, el tamaño de la fístula, la localización y el número, el estado distal de obstrucción uretral y los resultados quirúrgicos de las reparaciones de fístulas. Todos los pacientes fueron controlados tres meses después de la reparación de los resultados quirúrgicos.
Resultados: Reparación de la fístula realizada en 45 pacientes. La edad media fue 21.46 (20-26). Diecinueve pacientes (42,2%) fueron sometidos a una primera cirugía de hipospadias menor de 7 años de edad; 8 pacientes (17,7%) entre 7 y 15 edades, 18 pacientes entre 15 y 20 años. Veintidós pacientes (48,9%) tenían una o dos operaciones, 17 pacientes (37,8%) tenían 3-5 operaciones y 6 pacientes (13,3%) tenían 6 o más operaciones. Se observaron 13 (28,9%) coronas, 24 (53,3%) subcoronales, 6 (13,3%) pene y 2 (4,4%) fístulas penoscótalas. Mientras que la fístula aislada observada en 35 pacientes, se observaron múltiples fístulas en 10 pacientes. Se detectó diámetro de la fístula menor de 5 mm en 37 pacientes, mayor de 5 mm en 8 pacientes. La recurrencia de la fístula se observó en 3 pacientes en los exámenes de control. El número de cirugías fue superior a 5, el diámetro de la fístula fue mayor de 5 mm y las fístulas se encontraban en el nivel coronal en las tres fístulas recurrentes.
Conclusión: De acuerdo con los resultados de la fístula tamaño, las cirugías anteriores y bien vascularizada de una o dos capas de tejido fueron los factores importantes en el éxito de la reparación de la fístula después de la cirugía hipospadias.

Introduction

Hypospadias is one of the most common congenital anomaly of the penis, effecting one boy per 200 live male births and also the incidence is increasing.[1,2] The only option to treat hypospadias is surgical correction. Additionally there is no gold standard technique for this anatomical defect.[3] Urethrocutaneous fistula is one of the most common and frequently seen complication after hypospadias surgery with the recurrence rates ranging from 0 to 27% in contemporary series.[4,5] This complication mostly requires reoperation.[6] Several factors such as distal urethral obstruction, wound infection, use of inappropriate suture materials and poorly vascularized skin flaps for the neourethra can cause urethrocutaneous fistulas. The frequency of fistula formation has decreased as a result of surgeon experience, improvement in operative technique, use of appropriate suture materials and instruments, and coverage of the neourethra with well-vascularized tissue.[7,8] A variety of surgical techniques have been described and it is accepted that no single technique is suitable or effective for all patients with fistula.[9]

In the present study, our aim was to evaluate and share our fistula repair results in adult patients, who had been operated for hypospadias in their childhood.

Material and methods

Medical records of 48 patients who had been treated for urethrocutaneous fistula after hypospadias surgery in our department from May 2008 to January 2015 analyzed retrospectively. Patients' age at fistula repair, age at first hypospadias surgery, fistula size, localization and number, distal urethral obstruction status and surgical outcomes of fistula repairs were recorded.

Surgical technique for fistula repair: The fistula repair procedures were performed under local anesthesia with circumferentially penile block by using prilocaine in all patients. Distal part of urethra from fistula to meatus was

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