

Buccal mucosa urethroplasty in a reoperative and reconstructive challenge hypospadias: a case report

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Abstract

Buccal mucosa graft is usually used in a second operation. A buccal mucosa graft from the lower lip was used for large fistula reconstruction in one patients. The patient previously had been operated on several times at another center. The use of the buccal mucosa graft for urethral reconstruction in complex urethroplasties is a successful method with a low incidence of complications.

Key Words

Hipospadias; hipospadias complications; buccal mucosal graft

Introduction

Hypospadias is a common congenital abnormality of the genitourinary system affecting one in 300 male newborns and recent studies suggest an increase of the incidence [1]. Different surgical techniques have been utilized for the urethral repair in hypospadias. The objectives of reconstruction are to accomplish flat penis, normal urethral meatus, and optimal sexual function later in life [2].

After hypospadias repair may develop complications such as bleeding/hematoma, meatal stenosis, urethrocutaneous fistula, urethral stricture, urethral diverticulum, wound infection, impaired healing, and breakdown of the repair [3]. In the same way, there are a variety of repair procedures used for treating the penile urethral fistula and strictures. Skin flaps are used for repairing fistulas that are large for simple closure [4]. However, an insufficient of local tissue and subsequent skin coverage is the challenge in some cases. Buccal mucosa graft (BMG) is a good alternative because of features such as easy harvest, thick epithelium and rich elastin content [5].

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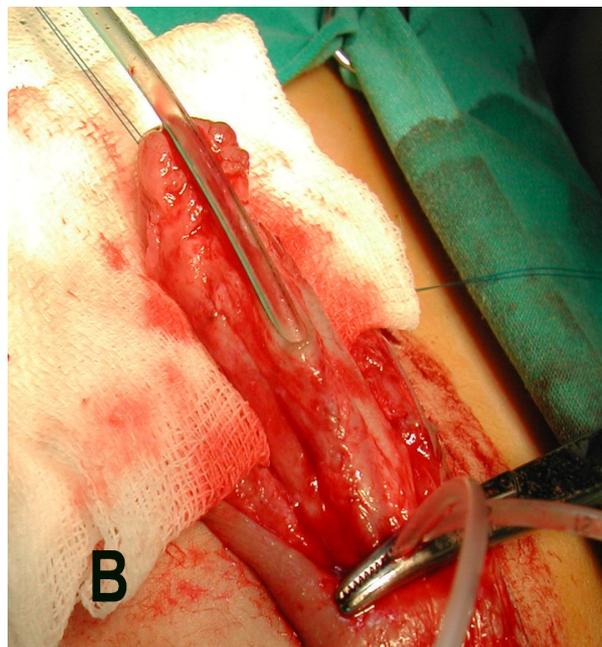
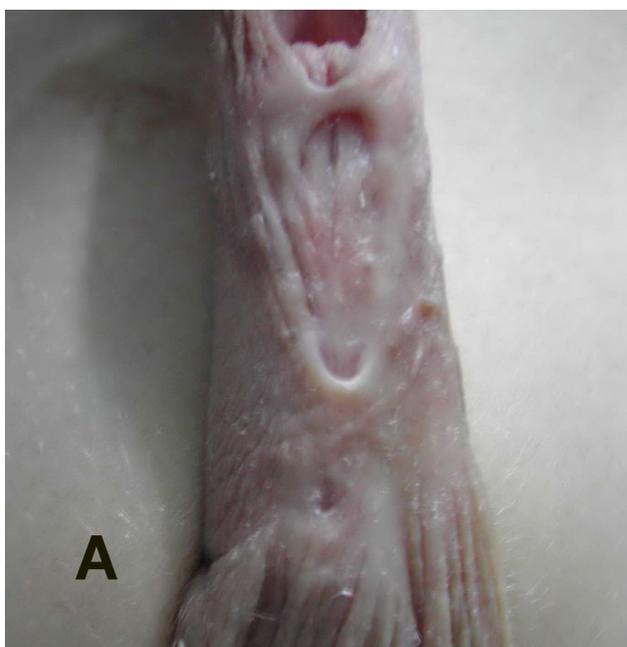
Herein, we present a case in urethrocutaneous fistula repair using a buccal mucosal graft in a patient with a history of previous hypospadias repair.

Case reports

A 9-year-old boy was admitted to hypospadias. The patient previously had been operated on several times at another center and had a large fistula (Fig. 1A). In operation, the penile skin was completely degloved. The urethral plate and ventral tissue were preserved (Fig. 1B). Thereafter, the buccal mucosa graft was harvested with a length sufficient (Fig. 1C and D). Subsequently, the buccal mucosa graft was

placed on the prepared bed and fixed in place by 7.0 monocryl sutures.

Urethral tubularization was completed with anastomosis performed in the ventral shaft using a 6 F silicone urethral catheter. Then, the dartos flap was incised longitudinally in the middle dividing it into two. Each of the two flaps was rotated towards the ventral surface of the penis and sutured on each other onto the neourethra. In the next step, the skin was closed with 6-0 vicryl interrupted sutures (Fig. 1E) and a pressure dressing was applied.



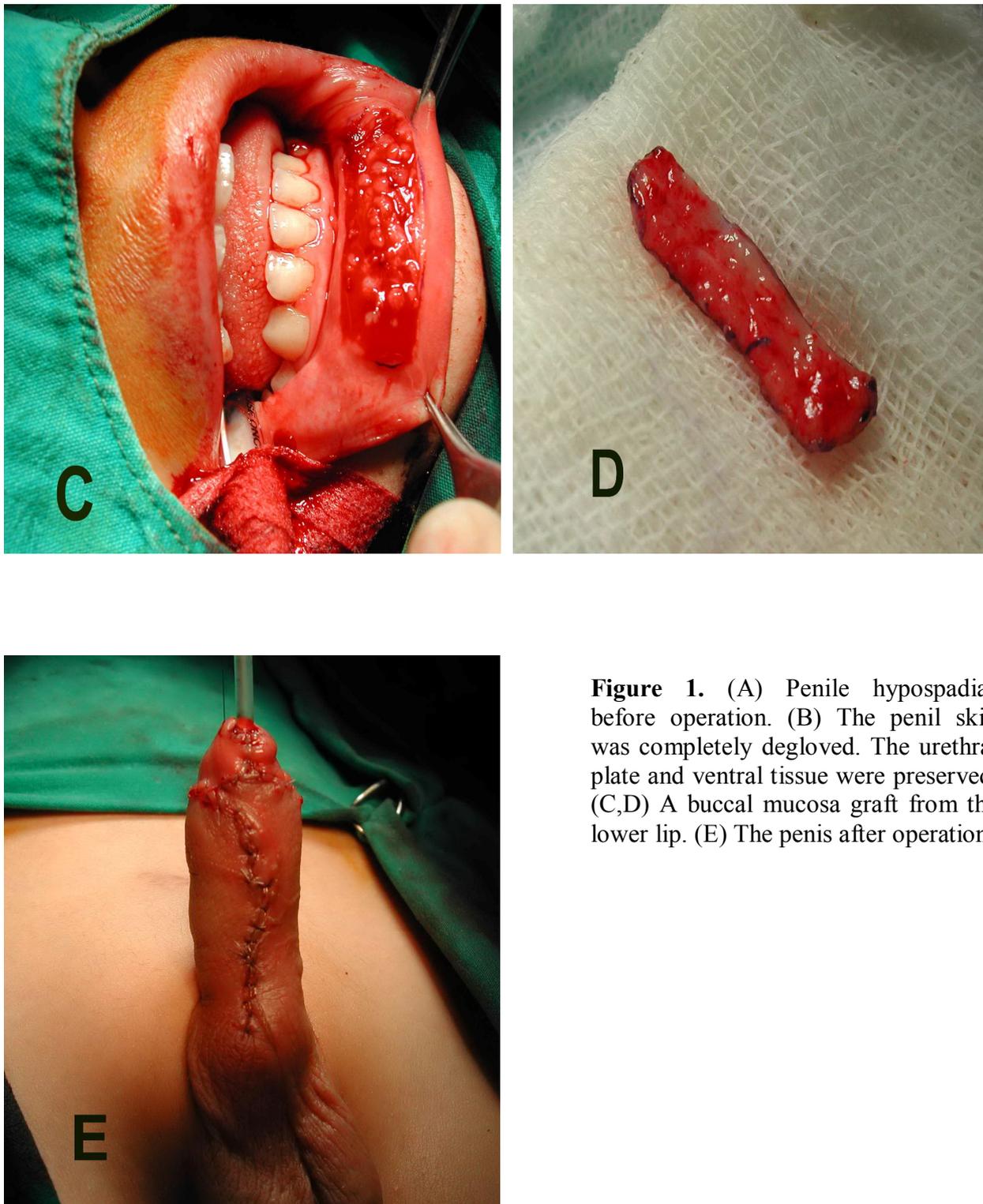


Figure 1. (A) Penile hypospadias before operation. (B) The penil skin was completely degloved. The urethral plate and ventral tissue were preserved. (C,D) A buccal mucosa graft from the lower lip. (E) The penis after operation.

Discussion

A successful repair in hypospadias is very important in the first operation. The chance of success of repetitive operations decreases because of the penis is heavily scarred, immobile, hypovascular, or significantly shortened [6]. The causes of failure in hypospadias repair can be listed as follows; wound infection, urine extravasation, hematoma, ischemia, and necrosis of flap and graft or from errors in design, technique, and postoperative care during the primary repair [6,7]. However, the most common complication in hypospadias repair is the formation of urethrocutaneous fistula. Several surgical techniques have been used to reduce the rate of this complication. Horton and Devine [8] used the term hypospadias cripple to describe the patient who had undergone multiple, unsuccessful hypospadias repair. Multiple repair attempts significant resultant penile deformity. The cases presented in this study have undergone the operation of hypospadias many times before and repair area is now fully opened. In previous operations, an amount dorsal skin was left. However, the ventral and dorsal regions of the tissues were not good quality. There was dense tissue scars. The size and location of the fistula and condition of the surrounding penil skin usually determine the optimum technique [4]. If local tissue cannot be used for

hypospadias fistula repair because of extensive scar formation, breakdown of the repair or a compromised vascular supply, BMGs can provide a reliable option [1]. Many authors have recommended buccal mucosal graft in secondary and complex hypospadias repair [9-11]. Histological studies have shown that the buccal mucosa is compatible with the urethral mucosa, and it is elastic, mobile and very tender when compressed or stretched due to the particular interface between the lamina propria and the oral epithelium [12,13]. Graft bed heals rapidly with minimum postoperative morbidity. In addition, BMG is resistant to infection and trauma [5]. In our case, there was a large fistula. The penile skin was completely degloved from the penis but the ventral shaft was protected. Thereafter, buccal mucosa anastomosis of approximately 3 cm was made and anastomosis over was supported by a double dorsal flap. The patient was successfully treated and had an adequate calibration.

As a conclusion, our experience showed that in the selected cases, BMG hypospadias repair is one of the successful methods that can be taken into consideration for repairing the fistula of a previous hypospadias operation.

CONFLICT OF INTEREST
None declared.

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