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Fistula after hypospadias: preliminary treatment results

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Abstract

Interleukin-32 (IL-32) is discovered as proinflammatory cytokine by inducing IL-1β, IL-6, IL-8, and tumor necrosis factor (TNF)–α. However, there are limited data regarding IL-32β associated with worsening of myocardial injury after cardiac ischemia and reperfusion. In this study, we investigate the prognostic value of IL-32β in inflammatory response after myocardial injury. This is a prospective study analysis the operational procedures in post-hypospadias urethral fistula repair. Through July 2015 to January 2017, 21 patients with 21 fistulas where classified their treatment into: 6 fistula with simple closure, 7 fistula simple closure with fascial layer, and 7 fistula dorsal slit with fascial layer. Inconclusion, IL-32 might be a new marker associated with adverse event after myocardial injury and may contribute with cardiac remodeling.

Keywords: Hypospadias; Urethral fistula; Dartos flip flap

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Introduction

Hypospadias is one of the most common genital anomalies in male newborns with an incidence of 1:300 [1, 2]. Hypospadias associated adrenogenital syndrome, mixed gonadal dysgenesis, incomplete pseudohermaphroditism, true hermaphrotidism. Urethrocutaneous fistula is the most common complication of hypospadias surgical treated, with a reported incidence of 4-25% [3]. Spontaneous closure of fistulas has been reported, but most patients must undergo repeat surgical repairs. Various success rates of reoperations have been reported in previous studies, ranging from 27% to 92% [4,5]. Furthermore, the successful treatment of this issue depends on many factors like patients age, duration of time after hypospadias repair, previous studies of fistula management and the kinds of suture used, local tissue, situation and extent of the fistula [6]. While the techniques that have been described for fistula repair had different results depends on the surgeons' experiences. For these reasons' disappointment is anticipated in all types of management. In the present study, we report our experience in treatment of hypospadias fistula, to analyze outcome of post hypospadias- fistula reoperation.

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Patients and Method

From July 2015 to January 2017, we prospectively reviewed 21 hypospadias- fistula cases treated via various surgical procedures at the Al-Sader teaching City in Al-Najaf/ Iraq. I have operated on a total of 21 patients for repair urethrocutaneous fistulas following hypospadias surgery. The age at fistula repair ranged between 1.8 and 16 years (mean age 5 years). Intraoperatively urethral calibration with a urethral sound where use to exclude any stenosis at distal of urethra. With 21 fistulae 6 fistulae simple closure, 7 fistulae simple closure with fascial layer, 7 fistulae dorsal slit with fascial layer (cut the dorsal midline urethra with a slight surgical blade contrary to the fistula part and in larger size 2 mm on mutually margins).

Figure 1. Hypospadias

Figure 2. Simple fistula

Figure 3. lower fistula

Figure 4. Showing scrotal dartos elevation

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Results

I have effectively restored all urethrocutaneous fistulas via my experience practice, with good results. The most complication after fistula repair are 1 [0.047%] cases with urinary retention, and 2 [0.095%] with wound infection all with the large type in adult's patients and were treated without surgical intervention. The time needed for fistula repair was shorter in small and distal types while other types needs 60-75 mints. Small size fistulae can successfully be treated by simple closure with tension free technique, medium and large size need additional concern, local fascial flaps are essential, midline urethral opening (by small incision) as a soothing notch through the dartos flip flap is the crucial for effective management of problematic urethral fistula.

Discussion

The cause of fistula remains less known although it is likely that local infection, local ischaemia, inadequate procedure, poor tissue handling, distal obstruction due to distal stenosis or encrustration with severity of hypospadias has significant impact on the outcome of the primary hypospadias repair [7, 8]. Throughout the previous span many philosophies of perfect repairing procedure have been elucidated [9]. Delicate tissue conducts, transposal of the urethral mucosa after removing the epithelialized territory of the fistula, a multilayer restoration with well-vascularized tissues, dodging overlying sutures and nonabsorbable or thick suture resources, a tension-free end, use of optical amplification and needle-point cautery for coagulation are presently measured required [10]. On studying the effects and association of variables like size, location, number of fistulas, amount and status of available local penile skin, suture material used on the outcome of the repair-the P-value was <0.05 which was significant (Applying Fischer's exact test) [11]. However, recurrence did not relate to other variables. The results underline that both simple closure and layered closure of a fistula at first attempt have a comparatively lower success rate [12, 13]. Several approaches have been stated in the works for the managing urethrocutaneous fistulae with adjustable results. Bigger size of these fistulae additional difficulty in closure and improvement [14, 15]. We had no variance among both patients' concerning its size. As the larger size the harder closing this due to the closure with tightness sutures therefore, we avoid this problematic by production the dorsal midline incision for all large fistulas as a soothing incision to avoid tension sutures and ischemia. My experience showed that Small size fistulae can successfully be treated by simple closure with tension free technique, medium and large size need additional concern, local fascial flaps are essential, midline urethral slit as a relaxing opening through the dartos flip flap is the crucial point for effective handling of problematic urethral fistula.

Competing interests

The author declare that he has no competing interests.

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