



Early vs. late-presenting urethroplasty complications after hypospadias repair: A retrospective analysis of patient follow-up

^aDivision of Urology, Ann & Robert H. Lurie Children's Hospital of Chicago, Northwestern University Feinberg School of Medicine, Chicago, IL, USA

Mark A. Faasse ^{a,b}, Dennis B. Liu ^a

^bAdvocate Children's Hospital, Chicago, IL, USA

Summary

Introduction

Complications after primary hypospadias repair often present late, that is, more than 1 year postoperatively. This has important implications for clinical practice and prospective research protocols. Follow-up regimen—or lack thereof—may contribute to delayed diagnosis of complications.

Objective

To characterize and compare the follow-up regimens of patients with early and late-presenting urethroplasty complications after primary hypospadias repair, specifically noting the length of time between encounters during which complications emerged.

Patients and methods

Boys who underwent repair of urethroplasty complications after hypospadias surgery were identified, and retrospective chart reviews were performed. Late complications were defined by presentation more than 1 year after primary repair; all others were designated as early. We recorded the encounter at which each patient was first noted to have a complication, as well as the last encounter prior to this. Follow-up intervals during which complications emerged were determined. Comparisons of the type of primary repairs, complications, and follow-up regimens (prescribed as well as actual) were performed between patients with early and late complications.

Results

A total of 51 patients underwent repair of 57 hypospadias complications. Eighteen patients (35%) had complications that presented late. Complications after a midshaft/distal hypospadias repair were more likely to present late than complications following a one- or two-stage proximal repair (59% vs. 31% vs. 6%, respectively; $p = 0.003$). The median interval between encounters during which late complications emerged was 24 months (IQR 16–43), compared with 1.2 (0.7–2.2) months for early-presenting complications ($p < 0.001$). Eleven of the 18 patients with late complications (61%) had not had an encounter beyond 3 months postoperatively prior to presentation of their complications; only four patients (8%) had a late complication that was unrecognized at a follow-up visit more than 6 months postoperatively (Figure). Patients with late complications had a greater discrepancy between prescribed and actual follow-up intervals, averaging 11 months ($p = 0.001$).

Conclusions

Late presentation of urethroplasty complications after hypospadias repair is relatively common. There is typically a lengthy follow-up interval during which late complications emerge. Many patients who presented with late complications had not previously been examined beyond the early postoperative period. Adherence to a more structured follow-up regimen that includes a visit outside of the early postoperative period (e.g. routine encounters at 6 months postoperatively) may facilitate earlier detection and reduce late presentation of complications, especially among patients with midshaft or distal primary repairs. Earlier diagnosis would allow secondary procedures to be completed sooner.

Correspondence to: M.A. Faasse, Advocate Children's Hospital, 4400 W. 95th St., Chicago, IL 60453, USA

mfaasse@sbcglobal.net
(M.A. Faasse)

Keywords

Hypospadias; Postoperative complications; Delayed diagnosis; Follow-up; Patient compliance

Received 1 January 2017

Accepted 20 May 2017

Available online 19 June 2017

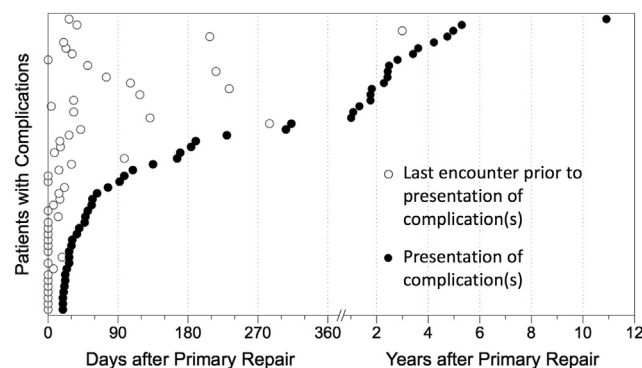


Figure Time to presentation of complications for each patient after primary hypospadias repair (closed circles), with the time of their last encounter prior to presentation of complications (open circles). The two data points for each patient ($n = 51$)—one open and one closed circle—are depicted in parallel to the horizontal axis.

Introduction

Many studies have reported that complications of primary hypospadias repair often present late, that is, more than 1 year postoperatively [1–7]. Wood et al. found this to be the case for over 30% of urethrocutaneous fistulas [1], and Snodgrass et al. indicated that nearly 20% of all urethroplasty complications were diagnosed late [2].

Better definition of the point at which complications become evident after hypospadias repair would help optimize follow-up regimens in clinical practice and prospective research protocols [2]. Although previous studies have reported when complications present or when patients undergo reoperation, none have specified how much time elapsed between follow-up encounters prior to presentation of complications. During this interval, complications may have been evident but not yet discovered.

The first aim of the current study was to determine the interval between follow-up encounters during which urethroplasty complications emerged. The second aim was to explore factors that may contribute to late presentation of complications. If any contributing factors are modifiable, it may be feasible to facilitate earlier detection and therefore earlier repair of complications.

We hypothesized that late urethroplasty complications generally emerge during a lengthy interval between follow-up visits, with the last encounter prior to their presentation often occurring very early postoperatively. We also hypothesized that the prescribed follow-up regimen and patient/family non-adherence could be factors contributing to late presentation of complications.

Patients and methods

We used CPT codes 54340, 54344, 54348, and 54352 to identify boys under 18 years of age who underwent surgery for repair of hypospadias complications at a single institution from 2011 to 2013. We also used billing records to identify boys with an ICD-9 diagnosis code for hypospadias (752.61) associated with any of the following procedures that may address complications of hypospadias repair: 52275, 52276, 52281, 53020, 53025, 53235, 53450, 53460, 53600, 53605, or 53620. A retrospective chart review was performed to confirm that patients had developed complications after primary hypospadias repair and to acquire data on patient demographics, the initial severity of hypospadias (midshaft/distal vs. proximal), the date and type of primary repair (one vs. two-stage), and subsequent clinical encounters and procedures, including all dates of service. Documentation from each encounter was reviewed to determine when patients presented with complications. We also noted the date of each patient's last encounter prior to presentation of their complication(s).

Inclusion in the present study was limited to patients with urethroplasty complications following primary hypospadias repair, that is, urethrocutaneous fistula, meatal stenosis, dehiscence, urethral diverticulum, and urethral stricture. We excluded complications that followed a redo (non-primary) hypospadias repair. We also excluded patients for whom necessary data regarding the primary

repair and/or follow-up encounters were unavailable or clearly incomplete.

"Late" complications were defined as those presenting at least 1 year after the completion of primary repair; all others were designated as early. Comparisons of primary repairs, complication types, and follow-up regimens (prescribed as well as actual) were performed between patients with early and late complications. For patients with more than one complication, we focused our analysis on the complication that presented first.

Statistical analyses were performed using Stata 13.1 (StataCorp, College Station, TX), and significance was defined as $p < 0.05$. Interval data were routinely summarized by the median and interquartile range (IQR). The nonparametric Mann–Whitney rank-sum test was used for comparison of interval variables. Relationships between categorical variables were evaluated by Fisher's exact test.

Ethical approval

This study was approved by the institutional review board of Ann & Robert H. Lurie Children's Hospital of Chicago.

Results

Sixty-seven patients were identified who underwent reoperations to address a total of 82 urethroplasty complications; some patients had more than one complication resulting from primary repair. Sixteen patients (with a total of 25 complications) were excluded from analysis, either because of inadequate data or because the complications followed a non-primary repair. Therefore, the study cohort included 51 patients with a total of 57 complications that developed after primary hypospadias repair (six of these patients had more than one complication).

Eighteen patients (35%) had complications that presented late (more than 1 year postoperatively), while 33 presented early (Table 1 and Figure). Complications after a midshaft/distal hypospadias repair were more likely to present late than complications following a one- or two-stage proximal repair (59% vs. 31% vs. 6%, respectively; $p = 0.003$). Fistulas comprised the majority of complications, with no significant difference overall in the types of complications that presented early vs. late ($p = 0.26$). However, it should be noted that 80% of non-fistula complications presented early, including all six cases of dehiscence.

Late complications presented at a median age of 42 months (IQR 31–62; Table 1). Recent toilet-training was specifically mentioned by clinical documentation at the time complications presented in six cases, and five additional cases presented between 18 months and 4 years of age.

The median interval between encounters during which late complications emerged was 24 months (IQR 16–43), compared with 1.2 (0.7–2.2) months for early-presenting complications (Table 2). Over half of early complications (17/33) were diagnosed at the first postoperative encounter. Although most late-presenting complications were not initially evident at one or more postoperative visits, only seven of the 18 patients who presented with late

Download English Version:

<https://daneshyari.com/en/article/5718537>

Download Persian Version:

<https://daneshyari.com/article/5718537>

[Daneshyari.com](https://daneshyari.com)