

Close Monitoring In the First Year after Hypospadias Repair Results in Early Detection of Urethrocutaneous Fistulas (UCFs)

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Background

- **Tubularized incised plate (TIP) urethroplasty is a common technique for hypospadias repair**
- **Cited complications include urethrocutaneous fistula (UCF), meatal stenosis, dehiscence, hematoma, recurrent ventral curvature. Most common are UCFs**
- **Previous literature estimates that ~64% of complications occur within 6 weeks, and 80% within one year**
 - **Recent evidence reports a median time to complication of 1.2 years**

Hypothesis

- We hypothesize that majority of UCFs occur within the first 6 months post-TIP urethroplasty
- Early detection immediately after occurrence (defined here as within 1 week post-catheter removal) may allow for non-surgical management of UCF

Objectives

- **Identify post-TIP urethroplasty time to fistula (TTF)**
- **Review treatment strategies for post-TIP urethroplasty UCF, including the role for conservative management with catheterization**

Methods

Study Design: Retrospective review of prospectively collected data

Setting: Tertiary Children's Hospital

- **Consecutive TIP repairs between 2008-2019 (n=733)**
- **Staged repairs, other hypospadias repair techniques, and redo cases excluded (n=303)**

Methods

Primary outcome: Time to UCF

Variables: 1) Time to UCF, 2) Age at repair, 3) Follow up duration, 4) Meatal location, 5) Ventral curvature before/after degloving, 6) Pre-operative testosterone stimulation (PTS), 7) Anesthetic type (caudal versus dorsal penile block)

- **Photograph check-ins q3days over first 4 weeks post-operatively by NP or hypospadias parent advocate**

Methods

Statistical analysis: Time to UCF analyzed using Kaplan Meier curves

Mean time to UCF detection compared between patients using independent T Tests:

- 1) With/without PTS
- 2) Caudal versus DPB
- 3) Distal versus proximal hypospadias
- 4) Ventral curvature >30 degrees versus <30 degrees

Results

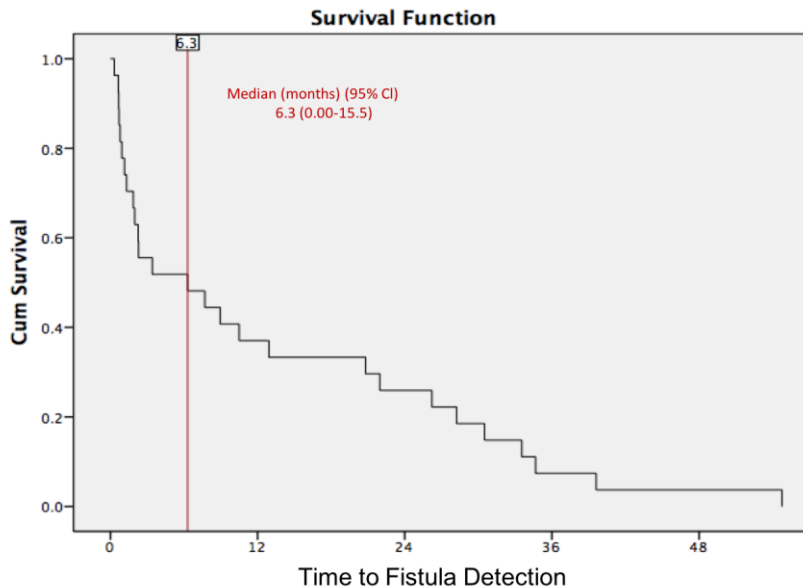
➤ 430 patients included in analysis

Age; months (median)	15.6 (13-20.7)
Follow-up; months (mean)	20 +/- 22
Hypospadias type	
Distal	n=307 (71%)
Mid	n=76 (18%)
Proximal	n=47 (11%)

Results

- **32 (7.4%) UCFs identified with a median time to UCF 6.3 (IQR 1.2-26.2) months**
- **Difference in mean time to detection of UCF in patients 1) with and without PTS (6.6 +/- 3.3 vs 17.7 +/- 4.1 mos, p=0.05), and 2) with caudal versus dorsal penile block (11.8 +/- 13.2 vs. 20.9 +/- 25.4 mos, p=0.05)**
- **Mean time to UCF detection similar for hypospadias location (13.9 +/- 15.8 vs 12. +/- 15 mos, p=0.83), and with ventral curvature >30 degrees versus <30 degrees (10.3 +/-16.7 vs 13 +/- 15.4 mos, p=0.70)**

Results



- UCF's were detected in:**
- **14 patients (52%) by 6 months**
 - **18 (67%) by 12 months**
 - **27 (100%) by 39 months**

Median time to UCF post-TIP urethroplasty = 6.3 months

- **In 5 (16%) patients, whose UCFs developed within a week post-catheter removal, a catheter was reinserted for an additional 7-10 days.**
 - **All these 5 fistulas resolved spontaneously once the catheter was removed, leaving 27 to be managed surgically.**

Conclusions

- **52% of all UCFs detected by a median time of 6 months**
- **2/3 of all UCFs detected by 12 months post-TIP urethroplasty**
- *An active surveillance protocol with regular photograph check-ins within the first 4 weeks post-catheter removal may result in earlier detection, and allow for conservative management for fistula repair*

Thank you for listening!

