



Comparison of variables affecting the surgical outcomes of tubularized incised plate urethroplasty in adult and pediatric hypospadias

A. Bhat, M. Bhat, V. Kumar, R. Kumar, R. Mittal, G. Saksena

Department of Urology,
S.P. Medical College, Bikaner,
Rajasthan, 334003, India

Correspondence to: A. Bhat,
C-15 Sadul Ganj, Bikaner,
Rajasthan, 334003, India.
Tel.: +91 151 2226327

amilalbhat@rediffmail.com

(A. Bhat)

mahak199027@gmail.com

(M. Bhat)

[vinay-](mailto:vinay-singhkgmc99@gmail.com)

singhkgmc99@gmail.com

(V. Kumar)

drrajeevkr2k@gmail.com

(R. Kumar)

druchimittalms@gmail.com

(R. Mittal)

[drhajendrasax-](mailto:drhajendrasaxenaspmc@gmail.com)

enaspmc@gmail.com

(G. Saksena)

Keywords

Incised plate urethroplasty;
Adults; Paediatric; Primary
hypospadias; Variables;
Results; Complications; Fistula;
Meatal stenosis

Received 2 November 2014

Accepted 1 September 2015

Available online 22 October

2015

Summary

Introduction

The American Academy of Pediatrics recommends operating on hypospadias between the ages of 6–12 months. Since most births in developed countries are conducted in a hospital, parents are likely to be well informed and counseled about the hypospadias. However, significant numbers of births in developing countries are still conducted at home, with illiteracy, poverty and ignorance often leading to late presentation at the hospital. Reported hypospadias-repair complication rates are higher in adults compared with those having surgery in childhood. The present study's objective was to evaluate the factors affecting surgical outcome in hypospadias patients undergoing tubularized and tubularized incised plate urethroplasty (TIPU) in adulthood compared with childhood.

Materials and methods

A prospective study of 60 adult patients >16 years, and 60 pediatric patients <5 years who underwent TIPU for primary hypospadias between May 2008 and May 2012. Patients were operated on by a single surgeon, under similar circumstances, and were pre-operatively examined to assess meatal location, chordee, and torsion; they were also examined intra-operatively for quality of spongiosum and urethral plate width. The outcomes were assessed by patient/parents for satisfaction regarding cosmesis, urinary stream and complications.

Results

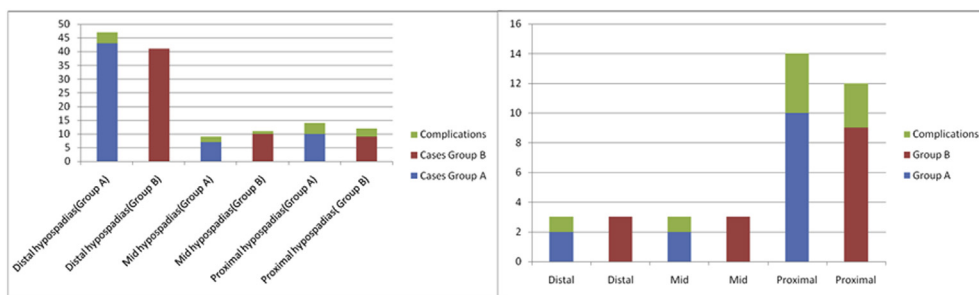
The age of the patients varied from 16 to 27 years, with a mean of 20.8 years in adults, and 6 months to 5 years, with a mean of 2.1 years, in children. The type of hypospadias, degree of curvature, quality of spongiosum and urethral plate width were comparable in both groups, but complication rates were higher in adults (16.7%) than in the pediatric (6.7%) group (Figure 1A–D). Meatal stenosis responded well to dilatation, but fistulae required revision surgery and had a cure rate of 100%. The median follow-up was 37 months in adults, and 39 months in children.

Discussion

The higher complication rates in adults may be due to more frequent erections; increased susceptibility to infection along with relatively reduced vascularity lead to poor wound healing and increased complication rates. The limitation of the study was the small number of patients with mid and proximal hypospadias having lesser incidences in comparison with distal hypospadias. Adequate number of patients in these subgroups could have further strengthened the statistical correlation. Secondly, there was no objective criterion like uroflowmetry to assess urinary stream.

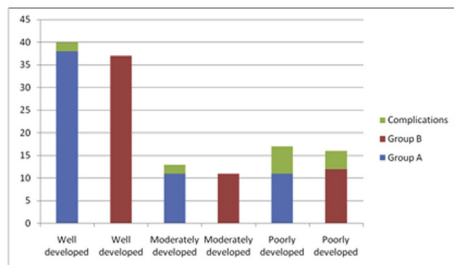
Conclusions

Complication rates were higher in adults undergoing TIPU compared with pediatric patients, which was also statistically significant in distal hypospadias. The important factors in surgical outcome were: severity of hypospadias, degree of curvature, quality of spongiosum, and urethral plate width.

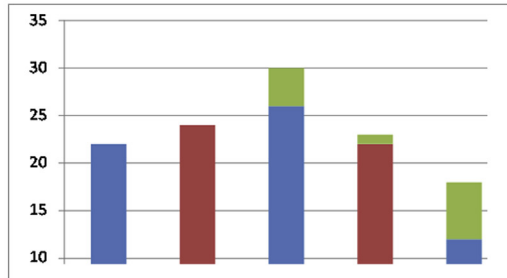


A. Bar diagram showing the effect of type of hypospadias on surgical outcome

B. Bar diagram showing the effect of chordee on surgical outcome



C. Bar diagram showing the effect of quality of spongiosum on surgical outcome



D. Bar diagram showing the effect of width of urethral plate on surgical outcome

Figure A. Bar diagram showing the effect of type of hypospadias on surgical outcome; B. the effect of chordee on surgical outcome; C. the effect of quality of spongiosum on surgical outcome; D. the effect of width of urethral plate on surgical outcome.

Introduction

Hypospadias repair is one of the most demanding reconstructive surgeries [1,2]. Tubularized incised plate urethroplasty (TIPU) is the most commonly used procedure in distal hypospadias [3,4] and has been successfully used for proximal hypospadias, re-operative and primary adult hypospadias, with good results. Age is an important factor related to the outcomes of surgical repair. The American Academy of Pediatrics recommends operating on hypospadias between 6 and 12 months [5]. In developed countries, most births are conducted in hospitals, and all parents are informed and counseled about the proper age for surgery. In developing countries, significant numbers of births are still conducted at home, with lack of awareness regarding congenital anomalies. Factors like illiteracy, poverty, and ignorance lead to late presentation to the hospital – mostly after the age of 2 years, and many even during late childhood or as adults [6].

In the various previous studies, complication rates have been found to be higher in adults undergoing hypospadias repair as compared with the pediatric population [7–9]. The purpose of this study was to evaluate the various factors affecting the results of tubularized and tubularized incised plate urethroplasty (TIPU) repair in adults, and to analyze the difference, if any, from the patients operated during early childhood.

Materials and methods

A prospective study was designed, and data of 60 adult and 60 pediatric hypospadias patients undergoing tubularized

and TIPU were recorded from May 2008 to May 2012. Inclusion criteria were: primary hypospadias cases; age >16 years (Group A) and <5 years (Group B); operated by a single surgeon with the same type of suture material and stents; similar dressings; belonging to similar socioeconomic status; and those who completed the postoperative follow-ups at 1, 3, 6 and 12 months, and then yearly. Exclusion criteria were: re-operative cases; and 21 cases with a combination of severe hypospadias, severe curvature with poorly developed and narrow urethral plate. There was a very narrow urethral plate (Fig. 1A and B) or hardly any urethral plate (Fig. 1C–F) in these patients; they were managed by modified Glassberg–Duckett urethroplasty.

On admission, all of the patients were examined to look for meatal location, chordee and torsion. The quality of spongiosum and width of the urethral plate were assessed, and the degree of chordee and torsion were reassessed on the operation table by Gittes [10] test before penile degloving. The severity of hypospadias was considered after penile degloving in the meatal location at the level of bifurcation of the spongiosum. Statistical analysis between the two groups was performed using the Chi-squared test.

The corpus spongiosum was classified, as reported earlier [11,12], as poorly developed if it was thin with decreased vascularity, and after tubularization the diameter of the neourethra covered by spongiosum was lesser than the proximal healthy urethra. It was labeled as moderately developed if it had average thickness and vascularity, and after tubularization the diameter of the neourethra covered by spongiosum was almost equal to that of the proximal healthy urethra. A well-developed spongiosum was defined as robust and thick, with good

Download English Version:

<https://daneshyari.com/en/article/4161947>

Download Persian Version:

<https://daneshyari.com/article/4161947>

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