Center for Reconstructive Urethral Surgery

GUIDO BARBAGLI M.D.

Arezzo - ITALY

e-mail: info@urethralcenter.it  
Website: www.urethralcenter.it
41st Scientific Congress

Gdańsk – Poland
8 – 10 September 2011

e-mail: info@urethralcenter.it  website: www.urethralcenter.it
The Team

Salvatore Sansalone

Sofia Balò

Giuseppe Romano

e-mail: info@urethralcenter.it

website: www.urethralcenter.it
Problems of urethral stricture in adult male after penile and urethral reconstructive surgery in childhood.
Professor Sava Perovic – Belgrade - Serbia

e-mail: info@urethralcenter.it
website: www.urethralcenter.it
Surgical Challenge in Patients Who Underwent Failed Hypospadias Repair: Is It Time to Change?

S. Perovic\textsuperscript{a,†}, G. Barbagli\textsuperscript{b} R. Djinovic\textsuperscript{a} S. Sansalone\textsuperscript{c} S. Vallasciani\textsuperscript{b} M. Lazzeri\textsuperscript{d}

\textsuperscript{a}Department of Urology, Clinical Centre Zvezdara, University of Belgrade, Belgrade, Serbia; \textsuperscript{b}Center for Reconstructive Urethral Surgery, Arezzo. \textsuperscript{c}Department of Urology, University Tor Vergata, Rome, and \textsuperscript{d}Department of Urology, Santa Chiara Firenze, Florence, Italy

\textbf{Urol Int 2010; 85: 427-435}
The study is a retrospective observational analysis of the patient chart of those who were treated for failed hypospadias repair in 2 centers from 1988 to 2007.

223 patients
The Center for Reconstructive Urethral Surgery
Arezzo - Italy

953 patients
The University Children’s Hospital
Belgrade - Serbia

1176 patients

Urol Int 2010; 85: 427-435
Our experience on 1176 patients showed four different types of surgical options:

1. Patient requiring only urethroplasty
2. Patient requiring only corporoplasty
3. Patient requiring urethroplasty and corporoplasty
4. Patient requiring complete resurfacing of the genitalia
<table>
<thead>
<tr>
<th>Group</th>
<th>Type of complication</th>
<th>Type of repair</th>
<th>N° patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>meatal or urethral stricture, retrusive meatus, fistula, diverticulum, other</td>
<td>urethroplasty</td>
<td>301 (25.5%)</td>
</tr>
<tr>
<td>2</td>
<td>residual penile curvature, corpora cavernosa deformity, penile shortening or torsion</td>
<td>corporoplasty</td>
<td>60 (5.2%)</td>
</tr>
<tr>
<td>3</td>
<td>stricture, fistula, diverticulum associated with residual glans or penile curvature or deformity</td>
<td>urethroplasty corporoplasty</td>
<td>166 (14.1%)</td>
</tr>
<tr>
<td>4</td>
<td>glans dehiscence, glans necrosis, glans torsion or curvature, loss of penile/scrotal skin, midline septum, abnormal peno.scrotal or peno.pubic junction, buried penis, trapped penis, other</td>
<td>genitalia resurfacing</td>
<td>649 (55.2%)</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td></td>
<td>1176</td>
</tr>
</tbody>
</table>

Urol Int 2010; 85: 427-435
# Urethroplasty

<table>
<thead>
<tr>
<th>Group</th>
<th>Type of complication</th>
<th>Type of repair</th>
<th>N° patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>meatal-urethral stricture, retractive meatus, fistula, diverticulum, other</td>
<td>urethroplasty</td>
<td>301 (25.5%)</td>
</tr>
</tbody>
</table>

*Urol Int 2010; 85: 427-435*
Ventral onlay oral mucosa graft
Dorsal onlay oral mucosa graft
Dorsal inlay oral mucosa graft
Dartos fascial flap urethroplasty
Combined dartos fascial flap and oral mucosal graft urethroplasty
Two-stage urethroplasty with oral mucosal graft
Oral mucosa is a versatile material to use in one-stage (onlay – inlay), two-stage or combined (flap + graft) procedures for urethral reconstruction in patients with failed hypospadias repair.
The choice of the surgical technique should be based on:

- **Intraoperative features of the stricture and genitalia.**

- **Surgeon preference (flap vs graft) (skin vs oral mucosa)**
  (one-stage vs two-stage).

- **Surgeon background (pediatric vs adult) (plastic vs urologist).**
## Corporoplasty

<table>
<thead>
<tr>
<th>Group</th>
<th>Type of complication</th>
<th>Type of repair</th>
<th>N(^\circ) patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>residual penile curvature, corpora cavernosa deformity, penile shortening or torsion</td>
<td>corporoplasty</td>
<td>60 (5.2%)</td>
</tr>
</tbody>
</table>

*Urol Int 2010; 85: 427-435*
Shorthening technique using multiple small incision and suture
Shorthening technique using penile disassembly and incision corporoplasty
Double “S” curvature (arrows) modified using double incision and corporoplasty
The Nesbit’s technique still represents a simple and effective procedure in patients with residual penile curvature due to failed hypospadias repair.

In selected patients, the technique require to be modified and settled according to the feature of the penile curvature or torsion.
## Urethroplasty and corporoplasty

<table>
<thead>
<tr>
<th>Group</th>
<th>Type of complication</th>
<th>Type of repair</th>
<th>N° patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>stricture, fistula, diverticulum associated with residual glans or penile curvature or deformity</td>
<td>urethroplasty corporoplasty</td>
<td>166 (14.1%)</td>
</tr>
</tbody>
</table>

_Urol Int 2010; 85: 427-435_
Urethral fistula and residual distal curvature
Multiple incisions and suture corporoplasty
Multiple incisions and suture corporoplasty
One-stage urethroplasty covered by dartos fascial flap
Short urethra, fistula and residual distal curvature
Ventral graft for penile lengthening
Two-stage urethroplasty using oral graft
Patients with failed hypospadias repair requiring combined urethroplasty and corporoplasty still represent a difficult population to treat.

In selected patients, combined two-stage urethroplasty and corporoplasty using grafting material is often necessary to obtain a satisfactory penile length and functional urethra.
## Genitalia resurfacing

<table>
<thead>
<tr>
<th>Group</th>
<th>Type of complication</th>
<th>Type of repair</th>
<th>N° patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>glans dehiscence, glans necrosis, glans torsion or curvature, loss of penile/scrotal skin, midline septum, abnormal peno.scrotal or peno.pubic junction, buried penis, trapped penis, other</td>
<td>genitalia resurfacing</td>
<td>649 (55.2%)</td>
</tr>
</tbody>
</table>

Urol Int 2010; 85: 427-435
Completely straightened and lengthened penis
Patients with failed hypospadias repair requiring complete resurfacing of the genitalia should be referred to a specialized center.
Success or failure?

- End-point of the reconstructive surgical itinerary
- No meatal or urethral dilation
- Absence of complications or poor aesthetic outcome requiring revision
Results in 1176 patients

<table>
<thead>
<tr>
<th>Type of repair</th>
<th>N° patients</th>
<th>Mean follow-up months</th>
<th>Success rate %</th>
<th>Failure rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>urethroplasty</td>
<td>301 (25.5%)</td>
<td>58.6 (12-186)</td>
<td>270 (89.7%)</td>
<td>31 (10.3%)</td>
</tr>
<tr>
<td>corporoplasty</td>
<td>60 (5.2%)</td>
<td>63.2 (12-237)</td>
<td>58 (96%)</td>
<td>2 (3.3%)</td>
</tr>
<tr>
<td>urethroplasty</td>
<td>166 (14.1%)</td>
<td>60 (12-210)</td>
<td>147 (88.5%)</td>
<td>19 (11.5%)</td>
</tr>
<tr>
<td>corporoplasty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>genitalia</td>
<td>649 (55.2%)</td>
<td>59.8 (12-192)</td>
<td>561 (86.4%)</td>
<td>88 (13.6%)</td>
</tr>
<tr>
<td>resurfacing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>1176</td>
<td>60.4 (12-237)</td>
<td>1036 (88.1%)</td>
<td>140 (11.9%)</td>
</tr>
</tbody>
</table>
Conclusions

Failed hypospadias repair is not a problem for the pediatric urologist, because the mean age of patients was 31 years.

Failed hypospadias repair is not a problem for the urethral surgeon, because only in 25.5% of cases the reoperative surgery was restricted only to the urethra.

Failed hypospadias repair involves, in the majority of patients (55.2%), the urethra, corpora cavernosa, glans, penile shaft and skin, requiring complete resurfacing of the genitalia.
Conclusions

Failed hypospadias repair is a complex problem requiring full collaboration between the urethral surgeon and the surgeon widely skilled in reconstructive surgery of the genitalia (penile prosthesis implant, surgery for Peyronie’s disease, surgery for male to female transition, surgery for complex defects of the corpora cavernosa).
Conclusions

Shouldn’t patients with complex failed hypospadias repair be referred to a Center of expertise?
Dr. Rados Djinovic – Perovic Foundation

Belgrade - Serbia
Register now!

www.webon.uretra.it