Predictors of re-stricture after graft urethroplasty

Introduction

To analyze the re-stricture rate in our patients who underwent a buccal mucosa graft urethroplasty and establish the risk factors that lead its appearance.

Materials and Methods

- Prospective study 2010-2012, minimal follow-up of 24 months.
- Variables:
  - Age at surgery, sex, length, location, number of previous surgeries (NPS), previous complications, previous urinary diversion (bladder or suprapubic catheter), previous peak flow (Qmax), prior voided volume (VV), prior postmicturition residual volume (PVR), postoperative complications, late complications, Qmax VV and subsequent PVR and stricture-free time. Recurrence was defined by Qmax (<12 mL/s) and/or the need for additional treatment (dilation/urethrotomy).
- Bivariate analysis (Fisher, T-test) and a predictive multivariate (multiple linear regression) to define the variables risk of recurrence.

Results

- 28 patients
  - 2 women (7.1%), 26 men (92.8%)
  - Age 50 ± 17.6 years
  - Primary 6 (21.46%)
  - Average length 3.51 ± 1.47 cm
  - Reestenosis 9 (32.4%)

Stenosis site

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>95% CI</th>
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</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.37</td>
<td>-0.57, -0.18</td>
</tr>
<tr>
<td>Length</td>
<td>-3.34</td>
<td>-5.92, -0.76</td>
</tr>
<tr>
<td>NPS</td>
<td>5.15</td>
<td>1.06, 9.24</td>
</tr>
<tr>
<td>Constant</td>
<td>46.8</td>
<td>34.4, 59.0</td>
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Linear regression coefficients p < 0.001, R2 = 0.62, AdjR2 = 0.56

Conclusions

The slightly higher re-stricture rate in our series is associated with the high number of referral patients with previous interventions in other centers (78.54%). Younger patients and shorter length are associated with a better result (greater postoperative Qmax). NPS is probably confounding factor. Classic factors such as location, prior Qmax or previous urinary diversion did not reach statistical significance.