INTRODUCTION AND OBJECTIVE

An innovative strategy for non-grafting penile enlargement: The Egydio Paradigm for Tunica Expansion Procedures (TEP).

METHODS

From February 2016 through February 2019, 416 patients underwent surgery with the Egydio TEP Strategy.

RESULTS

Table 1. Patient characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value (n)</th>
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<tbody>
<tr>
<td>Age (years), mean (range)</td>
<td>55 (30-70)</td>
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<tr>
<td>Length loss (%)</td>
<td>9.4 (4-15)</td>
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<tr>
<td>Shaft constriction %</td>
<td>6.8 (3-12)</td>
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<tr>
<td>Curvature correction %</td>
<td>8.9 (3-15)</td>
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<tr>
<td>Operative time (min), mean (range)</td>
<td>102 (45-150)</td>
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Figure 2: (A) The neurovascular bundle was dissected starting with parallel incisions on the Buck’s fascia where it was attached to the urethra. (B) Dissection of the distal extremity of the fascia intact and preserving the corpus. (C) Preservation of the glans permitted partial distal dissection of the neurovascular bundle where perpendicular incisions were made for tissue expansion and subsequent removal of excess tissue. (D) An appropriate urethral elevation was needed since maximum length of the penis was achieved after tissue expansion. The Egydio TEP strategy does not restrict penis lengthening.

Figure 3: Mathematical parameters are used to calculate tissue ratio expansion: (a) width between incisions becomes the width of the mesh ribbons and is an underestimated parameter for expansion. (b, c) length of incision determines proportionally the expansion ratio. The gaps (d) act as fixed bridges for the vertical pull, and the distances (e) determine the width of the anchorage.

Figure 4: (A) The stretched penis shows the relationship between the lateral incisions and the lengthening of the penile shaft. (B) The inflatable or malleable penile prosthesis. (C) The Egydio TEP strategy, multiple incisions were made for tissue expansion and subsequent removal of excess tissue. (D) The inflatable or malleable penile prosthesis is inserted into the corpora cavernosa. (E) The inflatable prosthesis. (F) A better expansion ratio can be obtained by increasing number (N) of incisions.

Figure 5: (A) After expansion of the penile shaft to the limits of the dissected neurovascular bundle, the cavernosal space around the distal extremity of the corpora cavernosa is lined with a series of cylinders for both the inflatable or malleable penile prostheses and the necessity of a rear tip extender. The general rule is to use the largest possible cylinders and the smallest possible rear tip extenders to obtain optimum axial rigidity for expansion. (B) The inflatable or malleable penile prosthesis. (C) The inflatable or malleable prosthesis. (D) The inflatable or malleable prosthesis.

Figure 6: (A) Vertical incisions for girth expansion of the tunica albuginea permit a correction of indentations and hour-glass deformity. Horizontal incisions for lengthening can be made on the penile shaft other than in the area of the vertical incisions to avoid cross-mesh or over-mesh that would weaken the tunica albuginea and result in insufficient support for the cylinders and bulging.

CONCLUSION

The Egydio TEP Strategy provides surgeons with solutions for penile prosthesis complications, both clinically and intraoperatively, and is demonstrated to be safe and effective to address problems of penile size reduction independently of penile curvature.

REFERENCES

Because incisions promote expansion, they are made to the maximum depth of the entire tunica or scar tissue level without need to pierce the tunica. Length gain is achieved by ‘pulling’ the tunica albuginea towards the entrance of the proximal area of the tunica. As the urethra is more elastic, the limit of the restoration depends on the length of the dissected neurovascular bundle. Since the urethra does not determine penile length restriction, the cylinders can be extended, or elevated during the procedure to lengthen the shaft of the penis. To determine the need to increase the length of incisions (N), the glans may be grasped by the fingers to stretch the penis until the dissection of the neurovascular bundle becomes taut, while taking care that the tunica albuginea not restrict the bundle from being fully extended. If the Egydio TEP strategy is required, the incisions are enlarged as (L) or control incisions used to reduce the incisions (g).

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