

DESCRIPTIVE STUDY OF URETHRAL RESISTANCE IN URODYNAMICALLY OBSTRUCTED BENIGN PROSTATIC HYPERPLASIA POSTOPERATIVELY CONTINENT PATIENTS, USING THE RETROGRADE LEAK POINT PRESSURE.

Aims of study
The retrograde leak point pressure (RLPP) is being used to study and treat patients suffering urinary incontinence after radical prostatectomy (1-3), although clinical reference values have not yet been determined. Our aim was to identify postsurgical RLPP changes, in continent patients after a desobstruction surgery for benign prostatic hyperplasia.

Study design, materials and methods
Descriptive, retrospective study. Clinical records were reviewed of males older than 50, with a urodynamic diagnosis of infravesical obstruction due to benign prostatic hyperplasia from July 2012 to January 2013, who remained continent after undergoing open surgery (Millin procedure). Exclusion criteria were: a bladder probe before surgery and changes in urodynamic filling phase (e.g. low compliance or bladder instability) that could affect the data to be analyzed. N=17 RLPP was measured after zero-calibrating the system at the pubis (4), after the flow pressure study, with an empty bladder and perfusing sterile saline in dorsal decubitus in free fall through a 16 Fr Foley with a 2-ml inflated balloon in the navicular fossa. This measurement was taken 3 times for each patient, before surgery, as part of the urodynamic study flow chart (P1), after spinal anesthesia (P2) and finally 30 days post-surgery (P3). All three values were compared using the null hypothesis. The dependent t-test for paired samples was used with a 95% CI to determine whether significant differences existed between variables.

Results
Patients’ mean age was 65.64 years (range 53-83), P1 mean values were: 42.6 (range 21-80), P2: 25.9 (range 10-43) and P3: 29 cm H20 (range 13-42). When comparing the P1-P2, P1-P3 and P2-P3 pairs, standard deviations were 19.6-9.8; 19.6-9 and 9.8-9, respectively (table 1). The p value associated to each pair was 0.000, 0.001 and 0.126 for P1-P2, P2-P3 and P2-P3, respectively (table 2).

Interpretation of results
Table 1 shows the variation in mean pressures within each comparative pair. It should be highlighted that between P1 and the other two pressures the standard deviation was 19.599 vs. 9.797 and 9.017, which predicts differences between pressures, whereas between P2 and P3 standard deviations are very similar and thus a significant difference is unlikely to exist. Table 2 proves the above situation where p is statistically significant (<0.05) for P1-P2 and P1-P3, and not significant for P2-P3. According to our results, the BPH surgery significantly decreased the RLPP in our study group, and continence was maintained.

Concluding message
In this study a statistically significant reduction was found in the preoperative RLPP after the surgical desobstruction, albeit not affecting continence. Although it is not possible to extrapolate these results because of the value of N, studies involving a larger number of cases could define the RLPP cut-off value, should there be one, as a predictive value for postprostatic surgery continence or incontinence.

Table 1
Paired Samples Statistics

<table>
<thead>
<tr>
<th>Pair</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>42.5882</td>
<td>17</td>
<td>19.59929</td>
<td>4.75353</td>
</tr>
<tr>
<td>P2</td>
<td>25.8824</td>
<td>17</td>
<td>9.79721</td>
<td>2.37617</td>
</tr>
<tr>
<td>P3</td>
<td>28.9412</td>
<td>17</td>
<td>9.01714</td>
<td>2.18698</td>
</tr>
</tbody>
</table>

Table 2
Paired Samples Test

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Lower</td>
<td>Upper</td>
<td>Lower</td>
<td>Upper</td>
<td>Lower</td>
<td>Upper</td>
<td>Lower</td>
</tr>
<tr>
<td>P3 - P1</td>
<td>-3.05882</td>
<td>7.81401</td>
<td>1.89518</td>
<td>-7.07642</td>
<td>.95877</td>
<td>-1.614</td>
<td>16</td>
</tr>
</tbody>
</table>
References


Disclosures

Funding: No funding or grant Clinical Trial: No Subjects: HUMAN Ethics not Req'd: It was part of a systematic procedure for patients undergoing prostate surgery, were informed consent were obtained and the protocol that was used to obtained retrospectively the data were aproved by the Urology Division of the Hospital Carlos Durand of Buenos Aires. Only a consent informed was added for the additional retrograde urethral pressure known as P3. Helsinki: Yes Informed Consent: Yes