

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 H2O (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

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 P1	42,5882	17	19,59929	4,75353
P2	25,8824	17	9,79721	2,37617
Pair 2 P1	42,5882	17	19,59929	4,75353
P3	28,9412	17	9,01714	2,18698
Pair 3 P2	25,8824	17	9,79721	2,37617
P3	28,9412	17	9,01714	2,18698

Table 2
Paired Samples Test

	Paired Differences					t	df	Significance
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
	Lower	Upper	Lower	Upper	Lower			
Pair 1 P1 - P2	16,70588	13,27952	3,22076	9,87818	23,53358	5,187	16	,000
Pair 2 P1 - P3	13,64706	14,71794	3,56962	6,07979	21,21432	3,823	16	,001
Pair 3 P2 - P3	-3,05882	7,81401	1,89518	-7,07642	,95877	-1,614	16	,126

References

1. 1- Comiter CV, Sullivan MP, Yalla SV. Correlation among maximal urethral closure pressure, retrograde leak point pressure, and abdominal leak point pressure in men with postprostatectomy stress incontinence. *Urology*. 2003 Jul;62(1):75-8.
2. 2- Romano SV, Metrebian SE, Vaz F, Muller V, D'Ancona CA, de Souza EA, Nakamura F. Long-term results of a phase III multicentre trial of the adjustable male sling for treating urinary incontinence after prostatectomy: minimum 3 years *Actas Urol Esp*. 2009 Mar;33(3):309-14.
3. 3- Ceresoli A, Guarneri A, El Rahman DA, Cazzaniga A, Macola GG. New perineal tensive transobturator tape (T-TOT) for postprostatectomy urinary incontinence. *Arch Ital Urol Androl*. 2010 Dec;82(4):154-8.

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