

VALSALVA'S MANOEUVER IN OBSTRUCTED MEN DO NOT IMPROVE Q MAX AS IT WAS THOUGHT

Cobrerros C., Del Villar M., Sarotto N., Garcia Penela E., Bechara A.

División de Urología, Hospital Carlos G. Durand, Buenos Aires, Argentina



INTRODUCTION

- It was historically believed that patients with outlet obstruction, improved their urine flow rate with valsalva's manoeuver. And moreover, that this was related to the etiopathogenesis of inguinal hernia. This has been proven inaccurate with the work of Jensen et al., where they demonstrate the lack of relationship between increased abdominal pressure and outlet obstruction^{1,2,3}.
- Aim of study:** Verify that in a cohort of obstructed men the use Valsalva manoeuver during the voiding phase does not improve Qmax.

MATERIALS AND METHODS

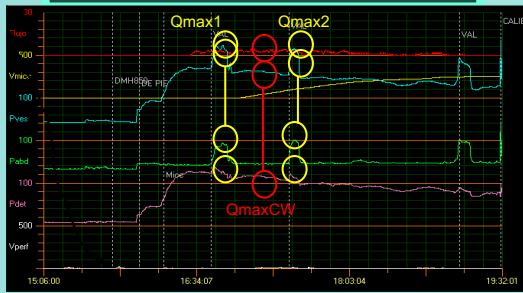
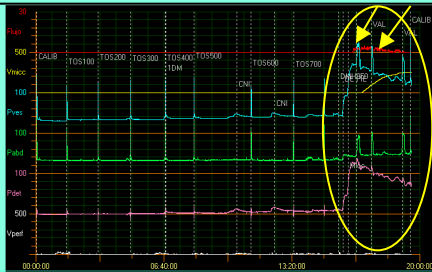
- From **January 2014 to February 2016**, we performed a prospective trial, informed consent were obtained, and during that period of time 195 urodynamic studies were performed. 171 patients accept to participated, and after:
- Inclusion criteria:**
 - IPSS ≥ 7 .
 - Qmax in the Freeflow ≤ 10 ng/ml.
- Exclusion Criteria:**
 - Pdet < 40 cmH₂O during the pressure/flow study (to avoid underactive bladder patients).
 - altered bladder compliance
 - bladder hyperactivity.



To determine if Valsalva's Maneuver was useful in obstructed men, we asked all men to perform two Valsalva's Manoeuver during micturition, of at least five second each, while the contraction of the detrusor has been started.

Statistic method: nule hypothesis (Wilcoxon signed rank test) using the T-test statistic measure, as the population cannot be assumed to be normally distributed comparing:

- F Qmax F** (Free Qmax obtained in uroflowneter prior urodynamic assesment)
- Qmax UDS** (the Qmax with a 6 Fr catheter in the urethra during the voiding phase)
- Qmax1-2** (Qmax with same catheter in urethra in the voiding phase obtained during the Valsalva's Manoeuvres)



RESULTS

- N=61
- Mean age 64.71 years (38-89y)
- Mean IPSS 19.19 (9-30). Mean Qol 4.3 (2-6).

	QMAXCV1-QMAXCW	QMAXCV2-QMAXCW
Z	-5,384	-5,197
Sig. Asintot. (bilateral)	,000	,000

- Qmax did not show improvement under valsalva's maneuver. But the difference proved to be statistically significant in the detriment of Qmax.

	MIN	MAX	AVERAGE
PdetQmax UDS	40	149,70	76,09
PdetQmax 1	18,6	197,70	75,61
PdetQmax 2	25,4	161,10	80,17

			DIFFERENCE
F Qmax	VS	Qmax UDS	41% ↓
Qmax UDS	VS	Qmax 1	64% ↓
Qmax UDS	VS	Qmax 2	67% ↓
F Qmax	VS	Qmax 1	131% ↓
F Qmax	VS	Qmax 2	135% ↓

	Qmax 1-QmaxF	Qmax 2-QmaxF	Qmax 1-Qmax UDS	Qmax 2-Qmax UDS
Z	-6,397	-6,347	-5,589	-5,528
Sig. Asintot.(bilateral)	,000	,000	,000	,000

CONCLUSIONS

- Main Aim:** In men with urodynamic outlet obstruction, the QMAX flow rate does not improve with valsalva's manoeuvre. In fact, it diminishes.
- Valsalva's manoeuvre does not modify detrusor pressure.
- The presence of a 6Fr catheter during voiding decreases Qmax per se, regardless of valsalva's manoeuvre.

REFERENCES

1 Abdominal straining in benign prostatic hyperplasia. Jensen KM, Bruskewitz RC, Iversen P, Madsen PO. J Urol. 1983 Jan;129(1):44-7.
 2 Estudios urodinámicos sobre la utilización de la Maniobra de Valsalva en la micción de los hombres con hernia inguinal superior a los 50 años Yuan Ting H, Tavares Pinheiro R, Dambros M, Palma P. Actas Urol Esp. 2007;31(7):771-775
 3 Hernia y próstata: ¿existe alguna relación entre ambas patologías?, Dres. Romano Salomón V.; Marino Ruiz Julio; Solari Juan José. Rev. Arg. de Urol. · Vol. 72 (2) 2007
 4 The Standardisation of Terminology of Lower Urinary Tract Function Abrams P, Cardozo L, Fall M, Griffiths D, Rosier P, Ulmsten U, van Kerrebroeck P, Victor A, Wein A. Joint publication: NeuroUrol.Urodyn 21(2):167-178. (2002 Wiley) Urology 61: 37-49