

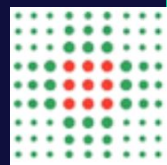
NON UROLOGICAL TREATMENTS FOR PRIMARY BLADDER NECK OBSTRUCTION



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ABSTRACT

Primary bladder neck obstruction (PBNO) is a benign under-investigated condition defined as an inappropriate or inadequate relaxation of the bladder neck during micturition [1].

Unfortunately, the exact etiopathogenesis still remains unknown, and no definitive treatment is available. In our experience, **PBNO is frequently associated with nociceptive pain and altered biomechanics of the pelvis** [2]. Therefore, the aim of this study was to verify if rehabilitative treatments focused on posture and pain were also effective to treat chronic voiding symptoms.

METHODS

Consecutive patients diagnosed with PBNO by the same urologist at our Institution were enrolled in the present study. Urinary infections, acute bacterial prostatitis, urinary stones, benign prostatic obstruction, and cicatricial urethral strictures were excluded. After PBNO was diagnosed, **treatments consisted in behavioral measures, intermittent catheterization** (in case of high post-void residual urine), **pelvic floor rehabilitation, trigger point injection therapy, and plantar in case of lower limbs dysmetria. No traditional urological treatments** (e.g.: alpha blockers, biofeedback, transurethral bladder neck incision, etc.) **were proposed** to any of the enrolled subjects.

RESULTS 1

18 patients with PBNO were evaluated. **Pelvic pain** was reported in a relevant percentage (**72%**) of the enrolled subjects. **Postural impairments were identified in all the subject at imaging** (full spine X-ray or pelvic-perineal MRI) [ICS 2018 abstract #394]. Pre-treatment uroflowmetries showed a variable degree of pathologic characteristics (e.g. reduced mean peak and average flow; significant post-void residual urine; pathologic curves).

Mean post-treatment volume emptied per single void was 285 mL, mean peak flow rate was 21.89 ± 9.20 mL/s, mean average flow rate was 9.67 ± 3.97 mL/s, mean post-void residual urine was 27.67 ± 62.45 mL. Moreover, there was a **significant improvement in morphology of curves**: 77% (n. 14/18) presented a normal uroflowmetric pattern, while 17% (n. 3/18) still had plateau flow, 11% (n. 2/18) urinary straining, and only one subject (5%) intermittent stream.

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RESULTS 2

When a comparison among pre-treatment and post-treatment uroflowmetries was carried out in each single patient, statistically significant differences were noticed in post-void residual urine ($p=0.04$) [Figure 1], in peak flow rate and in average flow rate ($p=0.0028$) [Figure 2]; voided volume showed a $p=0.14$.

The applied rehabilitative strategy was effective in a significant percentage of the enrolled subjects. **An after-treatment improvement was observed both at bladder diaries and uroflowmetries.** The existence of a possible correlation between altered biomechanics of the pelvis and urethral sphincters activity in male patients reporting voiding dysfunction in the absence of neurological or orthopedic signs was previously hypothesized [3]. Moreover, a recent pilot study showed that gait variables at ankle and pelvis level were vastly discordant from normalcy in male patients with PBNO [4].

In our opinion, **the association of nociceptive pain and hypertonic pelvic floor muscles suggests a possible postural etiology for PBNO.**

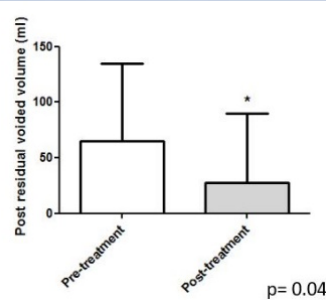
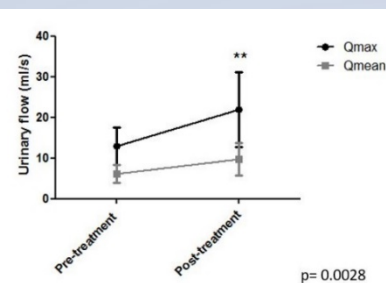


Figure 1: pre- and post-treatment modification of post-void residual urine (expressed in mL).

Figure 2: pre- and post-treatment modification of urinary flow parameters (peak flow rate and average flow rate, expressed in mL/sec).



CONCLUSIONS

The absence of a definitive and effective treatment strategy for PBNO reflects the poor knowledge of its etiology. **Results provided with our research sustain the hypothesis that posture may play a role in PBNO. Therefore, we suggest that a comprehensive urologic, postural and pain assessment evaluations with deep pelvic floor muscle examination should be carried out when examining male patients with chronic voiding symptoms.**

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