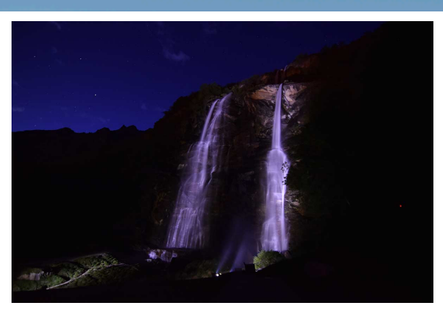

NOCTURNAL POLYURIA IN MALES WITH LOWER URINARY TRACT SYMPTOMS: PREVALENCE AND ASSOCIATION WITH NOCTURIA, UROFLOWMETRY AND IPSS QUESTIONNAIRE

 # Abstract 150

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HYPOTHESIS / AIMS OF STUDY

Aims of the study were to evaluate in males with lower urinary tract symptoms (LUTS): 1) the prevalence of nocturnal polyuria; 2) the relation between nocturnal polyuria, nocturia, and both uroflowmetry (UF) and International Prostate Symptom Score (IPSS).

STUDY DESIGN, MATERIALS AND METHODS

From September 2016 to November 2017 we enrolled 461 consecutive patients with LUTS into a prospective double-centre study. Data collected were: detailed medical history, UF, post void residual urine volume (PVR), a self-administered IPSS and a 3 days frequency volume charts (FVC), indicating “bedtime” and “waking time”. For each patient, we calculated the Nocturnal Polyuria index (NPi) which is the most widely used index of NP, indicating the ratio of nocturnal urine production (NUP) to 24-hour urine production expressed as a percentage. Frequency, voided volume and Nocturnal Polyuria index (NPi) were assessed by 3 days-FVC, and compared with IPSS data. Nocturnal polyuria was defined as a NPi >33%, and severe nocturnal polyuria as NPi >50%, nocturia as at least 1 mean episode of nocturnal voiding at 3 days-FVC. Analyses were performed considering: total IPSS score; IPSS-item #2 (frequency score); IPSS-item #7 (nocturia score); IPSS-item #8 (bother score); peak flow (Qmax) at the UF; PVR. A subanalysis according to patients age was also performed. For statistics Kruskal-Wallis test was used.

RESULTS

Both IPSS and 3-days FVC were completed in 162 patients (mean age 70.95 ± 8.04 yrs). Prevalence of NP was 54,9% (89/162 pts), while severe NP rate was 9.88% (16/162 pts) with a mean NPi of 34.4% ±11,2. Table 1 shows NP prevalence according to patients ages. Frequency volume chart analysis showed nocturia in 110 pts (68%), of these 69% (76/110) referred nocturnal polyuria. Nocturia was documented in 85% of the population with nocturnal polyuria (76/89). In Table 1 are listed median IPSS scores, Qmax, and PVR stratified according to NPi. Only median IPSS #7 and total IPSS showed significant difference.

Table 1: NP prevalence according to patients ages; median IPSS answers, peak flow and PVR, stratified according to NPi. IQR=interquartile range. *Kruskal-Wallis test

		NPi ≤ 33% (n=73)	33 < NPi ≤ 50% (n=73)	NPi >50% (n=16)	*P value*
Age (years)	**<65 (n=34)**	12 (35,3%)	21 (61,8%)	1 (2,9%)	
	65-74 (n=66)	34 (51,6%)	28 (42,4%)	4 (6,0%)	
	≥ 75 (n=62)	27 (43,6%)	24 (38,7%)	11 (17,7%)	
	Tot (n=162)	73 (45,0%)	73 (45,1%)	16 (9,9%)	
IPSS score [median & IQR]	**2**	1 [0 – 2]	1 [0 – 3]	1.50 [1 – 3]	>0.05*
	7	1 [1 – 2]	2 [1 – 3]	2.50 [2 – 4]	**<0.01***
	8	2 [1 – 3]	2 [0 – 3]	3.00 [1.5 – 4]	>0.05*
	tot	6 [3 – 10]	9 [5 – 14]	8.50 [5 – 18.25]	**<0.05***
Qmax [median and IQR]		13.6 [9.5 – 17.2]	12 [8 – 16]	13.75 [9.58 – 16.18]	>0.05*
PVR [median and IQR]		36 [12 – 70]	37 [19 – 77]	26.50 [17.25 – 41.75]	>0.05*

INTERPRETATION OF RESULTS

Our data showed a high NP prevalence (> 50%) among males complaining LUTS. In only a minor part of the patients NP was severe (<10%). Nocturnal polyuria was diagnosed also in patients without nocturia. More than 2/3 patients reporting nocturia had nocturnal polyuria. Therefore, misleading this two pathological conditions could involve useless and/or unsatisfactory treatments. These data stress the necessity to a whole evaluation of males with nocturia and not a simple focus on nocturia per se. Nocturnal polyuria influenced outcomes of median IPSS domain 7 and total IPSS score but not findings of IPSS domain related to quality of life and frequency. UF data (Qmax and PVR) did not change according to NPi. Therefore, nocturnal polyuria did not impact the micturition and the bladder emptying.

CONCLUDING MESSAGE

Nocturnal polyuria was a common condition in males with LUTSand nocturia, however it was severe only in a minority. Nocturnal production of urine did not influence the voiding pattern, nor the bladder emptying. IPSS was a valid tool to diagnose nocturia, while only FVC could identify NP. Therefore, the use of FVC is crucial to obtain a correct diagnosis in men reporting nocturia. Our data suggest that physicians should look for nocturnal polyuria among males with LUTS and nocturia in order to manage these patients with the most appropriate treatments using both frequency volume charts and and IPSS questionnaire.