

## MANAGEMENT OF LOWER URINARY TRACT SYMPTOMS ASSOCIATED WITH BENIGN PROSTATIC HYPERPLASIA IN ELDERLY PATIENTS WITH A NEW DIAGNOSTIC, THERAPEUTIC AND CARE PATHWAY

### Hypothesis / aims of study

Benign prostatic hyperplasia (BPH) resulting in lower urinary tract symptoms (LUTS) is a widespread disease that strongly interferes with the quality of life (QoL) of elderly males. It represents a real clinical and socio-economic problem may be due to the lack of a diagnostic, therapeutic and care pathway (DTCP) tool for LUTS/BPH that considers elderly people population in its whole complexity. The aim of this study was to evaluate the clinical effectiveness of the proposed DTCP LUTS/BPH tool.

### Study design, materials and methods

This prospective study was conducted on 278 patients over 75 years old with non-neurogenic LUTS recruited from February to July 2014 by 10 general practitioners (GP) and two assisted sanitary residences (ASR). Only five GPs and one ASR were provided with the complete DTCP LUTS/BPH tool to create two different groups of patients: group A (138 patients) was treated without the aid of the DTCP; group B (140 patients) was treated according to the DTCP. To assess treatment outcomes, IPSS-Q8, QPT and MPI questionnaires were administered in the recruitment phase and at the end of the study. The International Prostate Symptom Score (IPSS-Q8) questionnaire is a validated seven-item urinary symptom scale used for baseline assessment of LUTS (values range from 0 to 35), to which was added an eighth disease-specific quality-of-life question. The IPSS score is categorised as “asymptomatic” (0 points), “mildly symptomatic” (1–7 points), “moderately symptomatic” (8–19 points) and “severely symptomatic” (20–35 points). The QPT test is a quick and simple test, developed by the Italian Society of Urology (SIU) that can help to optimise the management of the health status of BPH patients by facilitating doctor–patient dialogue in the first visit and on subsequent follow-up. This questionnaire seems to be easier to administer than IPSS-Q8, because it consists of three simple questions and “yes” or “no” answers. It allows monitoring of the well-being of BPH patients with or without ongoing treatments. It is not associated with a score. Two questions investigate irritative or “filling” symptoms; one question investigates the obstructive or “emptying” symptoms. The affirmative answer to one of the three questions indicates that the test is positive for LUTS. The MPI is a prognostic tool (value ranges from 0.0 to 1.0) based on a standard Comprehensive Geriatric Assessment (CGA) that predicts short- and long-term mortality in elderly subjects. The MPI includes 63 items distributed in eight domains of CGA as follows: activities of daily living—six items; instrumental activities of daily living—eight items; Short Portable Mental Status Questionnaire—10 items; Mini Nutritional Assessment—18 items; Exton-Smith Scale—five items; Cumulative Index Rating Scale—Comorbidity Index—14 items; Number of drugs used—one item; Co-habitation status—one item. According to validated cutoffs, subjects were divided into three groups of risk of mortality: MPI-1 low risk (value  $\leq 0.33$ ), MPI-2 moderate risk (value 0.34–0.66) and MPI-3 severe risk (0.67–1.0). 19–23 To evaluate sexual function, patients were invited to complete the abridged five-item version of the International Index of Erectile Function (IIEF-5).

### Results

At 1 year of follow-up, the patients of Group B compared with Group A achieved a greater and significant mean reduction in the questionnaires score (International Prostate Symptom Score, Quick prostate test and QoL) linked to a higher increase in the flowmetry parameters (Qmax) and a lower postvoid residual. Furthermore, in Group B compared to Group A, a greater improvement of hydronephrosis, creatinine values and erectile dysfunction (ED) were obtained at 1 year of follow-up.

### Interpretation of results

In this study, we aimed to investigate a diagnostic, therapeutic and care pathway (DTCP) tool to provide a simple and practical guide to manage LUTS in an elderly population. All the subjects were categorised on the basis of the MPI in three different classes that reflect patients' general health status. Enrolled subjects were subdivided in two groups, the first (group A) using only the GP's and/or specialist's personal LUTS/BPH management, and the second one (group B) considered the DTCP to manage LUTS/BPH. Evaluating the comparison of results obtained in the two groups at 1 year of follow-up, an IPSS score improvement was reported in Group B (48% vs 14% of patients categorised as “severely symptomatic”). Compared with baseline IPSS, at 1 year, the patients in Group B achieved a mean reduction in symptom severity of  $8.27 \pm 0.68$  points on the IPSS, which represented a significant improvement when compared to Group A with its mean reduction in symptom severity of  $1.94 \pm 0.68$  points ( $P < 0.001$ ). Similar results were obtained in both the QPT test and QoL among the two groups of study (QPT:  $2.58 \pm 0.07$  vs  $2.04 \pm 0.06$ ;  $P < 0.0001$ ; QoL:  $3.94 \pm 0.14$  vs  $2.38 \pm 0.14$ ;  $P < 0.0001$ , in groups A and B, respectively). At 6 months of follow-up, the improvement observed in the self-administered questionnaires was related to a significant increase in the Qmax values (mean  $11.34 \pm 0.35$  mL/s vs  $17.07 \pm 0.35$  mL/s;  $P < 0.0001$ ) and to a lower postvoid residual ( $116.65 \pm 5.51$  mL vs  $61.8 \pm 5.51$  mL,  $P < 0.0001$ ), in the two groups A and B, respectively. In our investigation, the patients rated with bilateral hydronephrosis at 1 year of follow-up was 14.5 and 0.7% in Group A and Group B, respectively ( $P < 0.0001$ ); this trend was related to a significant decrease in the creatinine values ( $1.45 \pm 0.4$  mg/dL vs  $1.13 \pm 0.4$  mg/dL) in Group A vs B, respectively;  $P < 0.0001$ ). In this study, the management of patients according to the DTCP (Group B) was related to a greater rate of surgical procedures when compared to Group A (14.3% vs 4.3%,  $P = 0.0043$ ). This data and the different medical treatment management were associated with a greater mean number of urinary infections per patient in the first group (mean  $2.37 \pm 0.16$  vs  $0.85 \pm 0.16$ , respectively,  $P < 0.0001$ ), and with a lower percentage of patients affected by at least one episode of AUR in the second group (14.5% vs 7.1%). This clinical condition's improvement seemed to be related to a reduction in the mean number of GPs and/or other specialists consults (mean  $2.56 \pm 0.2$  vs  $1.31 \pm 0.2$ , group A and B, respectively;  $P < 0.0001$ ) and to a lower hospitalisation (5.8% vs 1.4%, group A and B, respectively).

### Concluding message

The results obtained from this study are sufficiently impressive and significant to support this new diagnostic, therapeutic and care pathway (DTCP) tool as the ideal pathway management of elderly men with LUTS associated with BPH and ED. The DTCP tool was associated with an improvement of all scores in self-administered questionnaires and a significant reduction in all BPH-

related complications (UTIs, AUR episodes, renal function impairment). Further studies with a greater number of elderly subjects and long term follow-up are needed to apply this tool in the clinical management of LUTS/BPH and ED.

#### References

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#### Disclosures

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