SPECIAL ARTICLE

Consensus on the clinical impact of the new scientific evidence available on benign prostatic hyperplasia∗


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KEYWORDS
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Abstract

Objectives: To study the technical opinion of an expert panel and reach a consensus of professional criterion in relation to the most recent scientific evidence in benign prostatic hyperplasia (BPH) in the scopes of diagnosis, progression criteria, medical treatment and surgical treatment. Material and methods: Systematized review of the literature of the last 10 years in BPH by means of a scientific committee and elaboration of a 64-question questionnaire divided into three strategic areas: (1) Diagnosis and stratification of the patients with BPH considering the progression risk factors, (2) novelties in the medical treatment and (3) new contributions in the surgical and minimally invasive treatment in BPH. A panel of 50 urologists standing out for their knowledge in BPH distributed throughout the national geographic area was chosen, establishing the Delphi methodology for the study through the application of two successive online surveys. Results: The 50 experts consulted completed the two groups of the questionnaire. In the first, a consensus of criterion was observed in 50 out of the 64 questions analyzed, achieving a consensus in 59/65 (92.5%) in the second round, which included aspects of morbidity of the lower urinary tract symptoms (LUTS), diagnostic tests necessary in the initial evaluation of the specialist, stratification of the patients in relation to the risk of progression, strategies of step-by-step medical therapy and combination in patients with risk of Acute Urinary Retention (AUR) or surgery and of the indications of surgical therapy and the role of new less invasive treatments. Conclusions: In a condition of the high prevalence of BPH, in which we have seen important changes in its entire spectrum in recent years, the obtaining of an elevated consensus to which

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a large number of reference specialists in this condition have contributed will be of great importance for the usual clinical management of this disease.
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Consenso sobre el impacto clínico de la nueva evidencia científica disponible sobre hiperplasia benigna prostática

Resumen
Objetivos: Explorar la opinión técnica de un panel experto y alcanzar un consenso de criterio profesional en relación a la más reciente evidencia científica en HBP en los ámbitos del diagnóstico, los criterios de progresión, el tratamiento médico y el tratamiento quirúrgico.
Material y métodos: Revisión sistematizada de la literatura de los últimos 10 años en HBP por medio de un comité científico y elaboración de un cuestionario de 64 preguntas repartidas en tres áreas estratégicas: 1.- Diagnóstico y estratificación de los pacientes con HBP atendiendo a los factores de riesgo de progresión. 2.- Novedades en el tratamiento médico y 3.- Nuevas aportaciones en el tratamiento quirúrgico y mínimamente invasivo en HBP. Se seleccionó un panel de 50 urólogos destacados en el conocimiento de la HBP repartidos por toda la geografía nacional instaurando para este estudio la metodología Delphi mediante la aplicación de dos encuestas sucesivas on line.
Resultados: Los 50 expertos consultados completaron las dos rondas del cuestionario. En la primera se apreció un consenso de criterio en 50 de las 64 cuestiones analizadas, logrando en la segunda ronda un consenso en 59/64 items (92,5%) que incluyen aspectos de morbilidad de los STUI, pruebas diagnósticas necesarias en la evaluación inicial del especialista, estratificación de los pacientes en relación al riesgo de progresión, estrategias de terapia médica escalonada y de combinación en pacientes con riesgo de RAO o cirugía y de las indicaciones de terapia quirúrgica y el papel de los nuevos tratamientos menos invasivos.
Conclusiones: En una patología de la alta prevalencia de la HBP, donde hemos asistido en los últimos años a cambios de calado en todo su espectro, la consecución de un elevado consenso al que han contribuido un amplísimo número de especialistas de referencia en esta patología, será de gran importancia para el manejo clínico habitual de esta enfermedad.
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Introduction

Benign prostatic hyperplasia (BPH) has been one of the areas of Urology that has developed the most at the therapeutic level over the therapeutic level in the last 20 years, boosted by a better understanding of the evolutionary natural history thereof, of the impact on the quality of life of the patients, of the pathogenic mechanisms and therapeutic effects of alpha blockers and 5-alpha reductase inhibitors. The recent years have been especially interesting because of the combination studies, with MTOPS\(^1\) and especially with COMBAT\(^2,3\), at the head, which have introduced a new paradigm such as the progression of the disease, and most importantly the selection of patients at increased risk thereof (mainly urinary retention and surgery). In this sense, an elevated PSA (>1.5 ng/ml) and prostate volume above 30 cm\(^3\) have been identified as major predictors of disease progression. In this respect, the combination therapy seems to appear as the best alternative in this scenario.

To this conceptual shift, the therapeutic alternatives to conventional prostate transurethral resection (TUR), such as prostate vaporization, Holmium laser enucleation, bipolar TUR, and other less invasive alternatives are also added. There have been many contributions of the literature in recent years, many of them with little ability to withstand rigorous critical analysis.

Although the expert consensus meetings are not accompanied by the appropriate level of recommendation, they should be considered useful tools to facilitate the clinical management of the patient in situations such as the global approach to a complex entity, still poorly dissected like BPH. In a country with approximately 2000 urologists, a consensus to help standardize the most practical aspects of disease management becomes necessary.

Material and methods

Under the management of a Scientific Committee, this study was developed in 4 phases; in the first phase, the Committee proceeded to a systematic review of the most recent quality literature, with critical review of over 150 articles, to the selection of both contents of the questionnaires and that of an expert panel formed by urologists from all autonomous communities with special interest and experience in BPH. 53 professionals were invited to participate, of whom 50 accepted and completed their participation (Appendix 1).

In the second phase, we proceeded to the formulation of the survey items (professional criteria and clinical recommendations under discussion), using a previous face-to-face qualitative work by the expert group. The final questionnaire included 64 items (Tables 1–3) distributed in thematic blocks as follows: 35 items on ‘diagnosis and stratification of
Table 1  Summary of statistical results on diagnosis and stratification of the patients with BPH in which the level of group consensus reached is established (see table legends in a footnote to the table).

<table>
<thead>
<tr>
<th>Block 1. Diagnosis and stratification of patients with BPH</th>
<th>Median</th>
<th>% of panelists against</th>
<th>Average</th>
<th>Interquartile range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. What symptoms interfere the most in the quality of life of the patients with voiding symptoms secondary to BPH?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Although voiding symptoms (obstructive) are more prevalent, filling symptoms (irritative) are more annoying and affect the quality of life of patients more: among them, increased frequency (nocturia, urinary frequency) and urgency (especially if associated with urge incontinence)</td>
<td>8</td>
<td>2.20</td>
<td>8.09</td>
<td>1</td>
</tr>
<tr>
<td>2. Terminal dribbling and postvoid incontinence particularly concern younger patients</td>
<td>7</td>
<td>28.30</td>
<td>7.07</td>
<td>2</td>
</tr>
<tr>
<td>3. In the assessment of BPH, the use of validated questionnaires to measure the impact on quality of life of the symptoms should be included</td>
<td>8</td>
<td>17.40</td>
<td>7.52</td>
<td>1</td>
</tr>
<tr>
<td>4. If the patient requires it, for their cultural and educational level, they should be attended to correctly interpret the quality of life questionnaires</td>
<td>7</td>
<td>23.90</td>
<td>7.20</td>
<td>1</td>
</tr>
<tr>
<td>5. To interpret the impact of BPH on the quality of life, the patient’s work activity must be taken into account explicitly</td>
<td>7</td>
<td>31.80</td>
<td>6.64</td>
<td>1</td>
</tr>
<tr>
<td>6. A diagnosis of nocturia is established if there is sleep interruption by the need to urinate one or more times a night</td>
<td>7</td>
<td>25.00</td>
<td>6.89</td>
<td>3</td>
</tr>
<tr>
<td>7. The assessment of nocturia, especially in the elderly, requires ruling out other possible comorbidities (neurological disorders, sleep disorders, heart disease...).</td>
<td>9</td>
<td>4.30</td>
<td>8.33</td>
<td>1</td>
</tr>
<tr>
<td><strong>B. What is the prevalence of mild, moderate, or severe symptoms in our environment?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. The prevalence of symptoms of BPH in the general population and primary care consultations is unknown</td>
<td>8</td>
<td>8.90</td>
<td>7.44</td>
<td>1</td>
</tr>
<tr>
<td>9. The prevalence of symptoms of BPH in the general population and primary care consultations must be studied</td>
<td>7</td>
<td>21.70</td>
<td>7.43</td>
<td>2</td>
</tr>
<tr>
<td>10. There is a long delay in consulting the urologist from the onset of the symptoms (mean 18 months)</td>
<td>7</td>
<td>28.30</td>
<td>6.96</td>
<td>2</td>
</tr>
<tr>
<td>11. Most of the patients (9 every 10) with BPH who visit urology present with symptoms of moderate (2/3) or severe (1/3) intensity, susceptible to pharmacological treatment</td>
<td>7</td>
<td>28.30</td>
<td>6.80</td>
<td>2</td>
</tr>
<tr>
<td>12. Most patients visiting urology (2/3) had criteria for progression (V&gt;30cm² and PSA&gt;1.5) at the time of diagnosis</td>
<td>7</td>
<td>21.70</td>
<td>7.26</td>
<td>1</td>
</tr>
<tr>
<td>13. Of the patients with progression criteria, 55% show moderate symptoms and 40% have severe symptoms</td>
<td>7</td>
<td>26.10</td>
<td>7.09</td>
<td>2</td>
</tr>
<tr>
<td>14. The clinical severity is directly correlated with the prostate volume, the prostate specific antigen (PSA), and the presence of criteria for progression, and inversely with the flow</td>
<td>7</td>
<td>21.70</td>
<td>6.89</td>
<td>1</td>
</tr>
<tr>
<td><strong>C. What is the minimum evidence necessary for the assessment of a patient with lower urinary tract symptoms (LUTS) secondary to BPH by the urologist?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Complete medical history</td>
<td>9</td>
<td>2.20</td>
<td>8.63</td>
<td>0</td>
</tr>
<tr>
<td>16. Abdominal and genital physical examination</td>
<td>9</td>
<td>6.70</td>
<td>8.36</td>
<td>1</td>
</tr>
<tr>
<td>17. Dipstick</td>
<td>7</td>
<td>32.60</td>
<td>6.95</td>
<td>3</td>
</tr>
<tr>
<td>18. Sediment, in case that the dipstick is abnormal</td>
<td>8</td>
<td>13.60</td>
<td>7.84</td>
<td>2</td>
</tr>
<tr>
<td>19. PSA, only if the digital rectal examination is abnormal or the patient is concerned about the prostate</td>
<td>3</td>
<td>35.60</td>
<td>4.07</td>
<td>4</td>
</tr>
<tr>
<td>20. Score (IPSS)</td>
<td>8</td>
<td>15.20</td>
<td>7.65</td>
<td>2</td>
</tr>
</tbody>
</table>
### Table 1 (Continued)

**Block 1. Diagnosis and stratification of patients with BPH**

<table>
<thead>
<tr>
<th>Item</th>
<th>Median</th>
<th>% of panelists against</th>
<th>Average</th>
<th>Interquartile range</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. Creatinine only if renal failure is suspected (repeated urinary tract infections, globe, enuresis, or history of lithiasis)</td>
<td>7</td>
<td>24.40</td>
<td>6.71</td>
<td>2</td>
</tr>
<tr>
<td>22. Flowmetry</td>
<td>8</td>
<td>22.20</td>
<td>7.42</td>
<td>2</td>
</tr>
<tr>
<td>23. Ultrasound with residual measurement</td>
<td>8</td>
<td>32.60</td>
<td>7.04</td>
<td>3</td>
</tr>
<tr>
<td>24. Vesicoprostatic ultrasound</td>
<td>8</td>
<td>27.90</td>
<td>6.95</td>
<td>3</td>
</tr>
<tr>
<td>25. Voliding diary in case of nocturia or altered IPSS</td>
<td>8</td>
<td>31.10</td>
<td>6.87</td>
<td>2</td>
</tr>
<tr>
<td>26. The initial assessment of BPH depends on the type/severity of the symptoms and quality of life</td>
<td>7</td>
<td>27.90</td>
<td>7.09</td>
<td>3</td>
</tr>
<tr>
<td>27. The initial assessment of BPH depends on the level of care in which treatment is provided to the patient</td>
<td>7</td>
<td>31.10</td>
<td>6.64</td>
<td>2</td>
</tr>
</tbody>
</table>

**D. Is it possible to identify the patients at high risk of progression?**

28. The patients with LUTS may be stratified by the risk of BPH progression, taking into account baseline and dynamic variables

29. In general, the baseline variables are more important to assess progression (prostate volume, PSA, severity of symptoms, age, residual urine volume [RUV], \( Q_{max} \)) than the dynamics (worsening of symptoms, increased RUV, no response to alpha-blockers).

30. Of all the variables, prostate volume and PSA are the heaviest and of greatest prognostic value

31. The PSA is a good predictor of prostate volume

32. The patient with previous complications (episodes of acute urinary retention [AUR]) has higher risk of progression

**E. Is the evaluation of PSA in patients with voiding symptoms secondary to BPH useful?**

33. The determination of serum PSA is useful in patients with LUTS due to BPH as a predictor of the disease natural history (current prostate size, future prostate growth, symptoms and their progression, sexual dysfunction, worsening of flow, AUR, and even need for surgery), as well as helping in screening for prostate cancer.

34. As the symptomatic progression and the risk of AUR are associated with higher PSA, this marker is a therapeutic guidance tool (PSA < 1.5 ng/ml, with a low risk of progression: just the alpha blocker is enough; PSA > 1.5 ng/ml: along with the alpha blocker, which relieves the symptoms, a 5-ARI must be added, which prevents progression by reducing the risk of AUR or surgery).

35. Training for professionals on the clinical usefulness of the determination of PSA in BPH is required

'\% of panelists against': percentage of panelists that score outside the region of three points that the median has.\(^1\)\(^-\)\(^9\)

According to the interpretation criteria described in the methodology, all the items on the diagnostic block and stratification of the patients with BPH are accepted by group consensus, except: * items not agreed due to a manifest discordance of opinion among the panelists (no. 19). ** Items not agreed because of detecting an unspecified group criterion among panelists (no. 31).
Table 2  Summary of statistical results on medical treatment of patients with BPH in which the level of group consensus reached is established (see legends in a footnote to the table).

<table>
<thead>
<tr>
<th>Block 2. Medical treatment of the patient with BPH</th>
<th>Median</th>
<th>% of panelists against</th>
<th>Average</th>
<th>Interquartile range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. According to the current evidence, is step treatment still valid?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. The therapeutic decision should be based on the baseline characteristics of the patient at the time of diagnosis (stratification)</td>
<td>8</td>
<td>8.70</td>
<td>7.78</td>
<td>2</td>
</tr>
<tr>
<td>37. The current evidence does not justify the pharmacological step treatment of the BPH</td>
<td>7</td>
<td>24.40</td>
<td>6.69</td>
<td>1</td>
</tr>
<tr>
<td>38. The new combination studies are changing the management of the BPH, including the criteria for disease progression (PSA and prostate volume) and the degree of clinical severity in therapeutic decision making</td>
<td>8</td>
<td>11.10</td>
<td>7.69</td>
<td>2</td>
</tr>
<tr>
<td>39. In patients under 50 and concerned about their sexual function, step treatment may be indicated</td>
<td>8</td>
<td>17.40</td>
<td>7.24</td>
<td>1</td>
</tr>
<tr>
<td>40. In patients with smaller prostate volume and low risk of progression, step treatment may be indicated</td>
<td>7</td>
<td>23.90</td>
<td>6.65</td>
<td>1</td>
</tr>
<tr>
<td>41. In patients with diagnosis of BPH, PSA &gt; 1.5, prostatic volume &gt; 30 cm³ and moderate to severe symptoms (IPSS &gt; 15), combination therapy of dutasteride-tamsulosin may be indicated from the start</td>
<td></td>
<td>13.00</td>
<td>7.74</td>
<td>2</td>
</tr>
<tr>
<td>42. Delayed initiation of combination therapy in these patients increases the risk of poor evolution (progression, acute urinary retention, surgery)</td>
<td>8</td>
<td>28.30</td>
<td>7.04</td>
<td>2</td>
</tr>
<tr>
<td>43. The benefit of the dutasteride-tamsulosin combination versus the alpha blocker is already obtained in the first year of treatment</td>
<td>8</td>
<td>4.40</td>
<td>8.16</td>
<td>1</td>
</tr>
<tr>
<td><strong>B. Has combination therapy demonstrated greater efficacy than monotherapies, in relation to the size of the prostate?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44. The average prostate volume combination is superior to alpha-blockers in reducing the risk of AUR and BPH surgery</td>
<td>8</td>
<td>11.10</td>
<td>7.84</td>
<td>2</td>
</tr>
<tr>
<td>45. The average prostate volume combination is superior in reducing symptoms and improving quality of life to both monotherapies</td>
<td>8</td>
<td>17.40</td>
<td>7.70</td>
<td>2</td>
</tr>
<tr>
<td>46. The combination in very large prostate volumes has no advantages over monotherapy with a 5-ARI (dutasteride)</td>
<td>8</td>
<td>28.90</td>
<td>6.64</td>
<td>3</td>
</tr>
<tr>
<td>47. Prostate volume should not be a pharmacotherapeutic decision medical criterion, because there is no clear definition of what a large prostate is</td>
<td>2***</td>
<td>22.20</td>
<td>2.78</td>
<td>1</td>
</tr>
<tr>
<td><strong>C. In which patients is combination therapy more effective than treatment with alpha-blockers?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48. Patients with prostate volume &lt; 30 cm³ and mild symptoms are tributary of alpha-blocker monotherapy</td>
<td>8</td>
<td>19.60</td>
<td>7.24</td>
<td>2</td>
</tr>
<tr>
<td>49. Patients with low moderate or severe urinary tract symptoms, with prostate volume &gt; 30 cm³ and PSA &gt; 1.5 are tributary of combination therapy with dutasteride, tamsulosin which is more effective than both monotherapies, regardless of the baseline IPSS</td>
<td>8</td>
<td>10.90</td>
<td>7.76</td>
<td>2</td>
</tr>
<tr>
<td>50. Any patient with progression criteria that has not responded to previous monotherapy with alpha-blockers is tributary of combination therapy</td>
<td>8</td>
<td>17.80</td>
<td>7.36</td>
<td>2</td>
</tr>
<tr>
<td>51. The criterion of combination therapy should be individualized in relation to its possible side effects, especially in young patients</td>
<td>8</td>
<td>6.50</td>
<td>8.00</td>
<td>1</td>
</tr>
</tbody>
</table>

*% of panelists against*: percentage of panelists that score outside the region of three points that the median has.1-9
According to the interpretation criteria described in the methodology, all the items on the block of medical treatment of the patient with BPH are accepted by group consensus, except: *** the panel of experts rejects the content of the item by group consensus (no. 47).
Table 3  Summary of statistical results of surgical treatment in which the level of group consensus reached is established (see legend in a footnote to the table).

<table>
<thead>
<tr>
<th>Block 3. Surgical treatment</th>
<th>Median</th>
<th>% of panelists against</th>
<th>Average</th>
<th>Interquartile range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Do we have at present accurate indicators for surgical decision?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52. The classical absolute indications remain: refractory AUR, recurrent urinary retention, recurrent refractory hematuria to treatment with 5-ARI, renal insufficiency (creatinine &gt; 1.5), bladder lithiasis, increased bladder residue (150ml)</td>
<td>9</td>
<td>0.00</td>
<td>8.41</td>
<td>1</td>
</tr>
<tr>
<td>53. The patients with severe symptoms of BPH and failure of combination therapy (no response and/or intolerances and/or side effects) are surgical candidates</td>
<td>9</td>
<td>0.00</td>
<td>8.41</td>
<td>1</td>
</tr>
<tr>
<td>54. The low quality of life perceived by patients and their treatment choice should be considered relative indicators of intervention</td>
<td>8</td>
<td>19.60</td>
<td>7.37</td>
<td>2</td>
</tr>
<tr>
<td>B. What is the ideal transurethral technique?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55. Although for decades transurethral resection (TUR) has been the standard therapy for treating LUTS due to BPH, different transurethral ablative techniques have shown the same improvement with fewer adverse effects</td>
<td>7</td>
<td>27.30</td>
<td>6.57</td>
<td>1</td>
</tr>
<tr>
<td>56. Mono or bipolar TUR would be the alternative of choice, depending on availability. Although its efficacy is similar, bipolar TUR is superior in safety, so it would be more advisable</td>
<td>8</td>
<td>4.30</td>
<td>8.11</td>
<td>1</td>
</tr>
<tr>
<td>57. The Holmium laser enucleation, despite its low diffusion and long learning curve, achieves maintained long-term results, so it is an alternative to standard TUR in hospitals with expert teams, especially for large prostates (&gt;80 cm³)</td>
<td>8</td>
<td>20.00</td>
<td>7.40</td>
<td>1</td>
</tr>
<tr>
<td>58. Although it lacks evidence to advise KTP laser vaporization of prostate, in a subgroup of patients at high risk (significant comorbidity) it may be an advisable alternative</td>
<td>7</td>
<td>15.60</td>
<td>7.31</td>
<td>2</td>
</tr>
<tr>
<td>59. The perfect transurethral technique (of generalized choice) still does not exist, and in the future, different alternatives will probably coexist (depending on size, cost effectiveness, and training of the surgeon)</td>
<td>8</td>
<td>13.00</td>
<td>7.54</td>
<td>2</td>
</tr>
<tr>
<td>C. What role do minimally invasive therapies play in BPH today?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60. Only in patients with severe morbidity some minimally invasive therapies (non-ablative) may be an alternative treatment. Of these, thermotherapy is the best option in terms of long-term results</td>
<td>5**</td>
<td>40.00</td>
<td>5.29</td>
<td>2</td>
</tr>
<tr>
<td>61. Permanent stents can be an effective alternative to the indwelling catheter in patients with surgical contraindication</td>
<td>6**</td>
<td>66.60</td>
<td>5.42</td>
<td>2</td>
</tr>
<tr>
<td>D. Is there room for open surgery in BPH today?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62. The current place of open prostatectomy is restricted to very large prostates or with associated pathology (large lithiasis, diverticula, or hernias)</td>
<td>8</td>
<td>4.30</td>
<td>7.98</td>
<td>2</td>
</tr>
<tr>
<td>63. In such cases, Millin’s technique is considered the technique of choice (versus laparoscopic approach, which would be exceptional)</td>
<td>8</td>
<td>2.20</td>
<td>8.15</td>
<td>1</td>
</tr>
<tr>
<td>64. Open prostatectomy may also be indicated in some cases of associated urethral stricture</td>
<td>7*</td>
<td>34.10</td>
<td>6.30</td>
<td>1</td>
</tr>
</tbody>
</table>

*% of panelists against*: percentage of panelists that score outside the region of three points that the median has.\(^{1*9}\)

According to the interpretation criteria described in the methodology, all the items on the block of surgical treatment are accepted by group consensus, except: * items not agreed due to a manifest discordance of opinion among the panelists (no. 64); ** items not agreed because of detecting an unspecified group criterion among panelists (nos. 60 and 61).
patients with BPH, 16 items on ‘medical treatment of BPH’, and 13 items on ‘Surgical treatment of BPH’. The project field work was carried out between May and June 2011.

The third phase, not requiring attendance, conducted by an independent technical team, consisted of applying a modified Delphi method that seeks the individual and anonymous opinion of each expert on the subject to explore through the response to a structured written survey, sent by email, in an anonymous and confidential way. After this, a second round of survey on the questions not agreed in the first attempt is repeated, giving the participants the results obtained by the group in the first questionnaire, as well as explanatory comments of their opinions. A single type of rating scale was proposed for all the questions, ordinal Likert-type of 9 points (1 = fully disagree; 9 = fully agree), according to the format developed at UCLA-Rand Corporation for the assessment method of the appropriate use of health technology.4,9 The response categories are described by linguistic qualifiers in three regions (1–3 = ‘disagreement’; 4–6 = ‘neither agreement nor disagreement’; 7–9 = ‘agreement’).

The fourth phase corresponds to the collection and analysis of results. The position of the median scores of the group and the level of agreement reached by the respondents according to the following criterion are used: an item is considered consensual when there is ‘agreement’ in the panel opinion; that is, when the experts who score outside the region of three points that the median has4–9 are less than a third of the respondents. In that case, the median value determines the group consensus reached: majority ‘disagreement’ with the item if the median ≤ 3, or majority ‘agreement’ with the item if the median ≥ 7. The cases in which the median is in the regions 4–6 are considered ‘doubtful’ items. By contrast, it is established that there is ‘disagreement’ of criteria in the panel when the scores of a third or more of the panelists are in the region between 1 and 3, and another third or more in the region of 7–9. The remaining items that do not show agreement or disagreement are considered with an ‘unspecified’ degree of consensus. All the items in which the group does not reach a clear consensus for or against the question raised (questionable items, those in which there is disagreement, and those which showed an unspecified level of consensus) were proposed to reconsider the panel in the second Delphi round. The items that showed a high dispersion of opinions among the respondents also underwent reassessment, with an interquartile range ≥ 4 points (range of scores contained between the p25 and p75 values of the distribution).

Results

The 50 experts consulted completed the two rounds of assessment. In the first round, 50 of the 64 issues analyzed according to predetermined assessment criteria were agreed. Of the remaining 14 items suggested for reconsideration of the experts, 9 more were agreed in the second round.

Finally, in 5 items agreement was not achieved according to the preestablished criteria. In the remaining 59 items, a clear expert consensus was reached, representing 92.2% of the contents subjected to expert judgment. Except in an issue that caused the unanimous opposition of the panel, the remaining agreed items were so in terms of group agreement with the issues raised. In Tables 1–3 the overall project results are detailed, indicating for each item the centralized statistics of relating scores (median and mean), percentage of distribution of respondents who are outside the region chosen by the majority, and the interquartile range.

On the items agreed in the questionnaire, 6 reached a median score of 9. These issues correspond to questions 7, 15, 16, and 32 of the diagnosis and stratification block, referring to the need to rule out other comorbidities in the assessment of nocturia and the performance of a complete clinical history and abdominal and genital physical examination as a minimal assessment of a patient with lower urinary tract symptoms (LUTS). The other two questions that reached consensus with a median score of 9 are 52 and 53 of the block on surgical treatment, which refer to the indications for surgery. It is precisely these two items the only ones that have no panelist against.

Of all the contents agreed in the questionnaire, the only proposal specifically rejected by consensus of the group, within the block of recommendations relating to medical treatment of BPH, is the consideration that ‘the prostate volume should not be a medical criterion of pharmacotherapeutic decision, since there is no clear definition of what a large prostate is’ (item 47).

Among the non-consensual proposals, two of them achieved majority support but not enough of those surveyed, showing disagreement of opinion of experts, according to the preestablished interpretation criteria. The proposal that ‘the PSA must be included as a minimum necessary test for the assessment of the patient with LUTS secondary to BPH, only if the DRE is abnormal or the patient is worried about the prostate’ (item 19) aroused overwhelming opposition of the expert group, but not enough to achieve a level of consensus (35.6% did not expressly reject that recommendation). Conversely, the recommendation that ‘open prostatectomy may also be indicated in some cases of associated urethral stricture’ (item 64) was supported by an insufficient majority of the group (34.1% of the respondents did not agree with this criterion).

The remaining three non-consensual proposals were so because the panel showed a doubtful or unspecified criterion. These items were the consideration that ‘the PSA is a good predictor of the prostate volume’ (item 31) and the two questions that judge the current role of minimally invasive therapies for BPH, namely, ‘only in patients with severe morbidity, some minimally invasive therapies (non-ablative) may be an alternative treatment; of which thermotherapy is the best option in terms of long-term results’ (item 60) and ‘permanent stents can be an effective alternative to the permanent probe in patients with contraindications to surgery’ (item 61).

Discussion

The Delphi methodology, widely used in biomedicine, makes it possible to achieve a professional consensus of a geographically dispersed group of experts. Its characteristics of successive rounds with processing and dissemination of intermediate results help in achieving professional
consensus, which result in the dissemination of very important recommendations to reduce the variability in clinical practice.

In this ambitious approach to BPH, consensus was achieved in 92.25% of the 64 questions structured in fields such as: importance of the symptoms, quality of life implications, relevance and need for diagnostic tests, stratification of patients for treatment according to criteria of progression, or state of new instrumental therapies.

Although the prevalence of urinary tract symptoms secondary to BPH in the general Spanish population is unknown, it seems that when they reach the stage of specialized care most of them present with moderate or severe symptoms, and about two-thirds, with progression criteria defined by a PSA ≥ 1.5 and a prostatic volume greater than or equal to 30 cm³. This would be due, among other factors, to the delay in consultation with the urologist from the onset of the symptoms. This view coincides with the only study performed in our country in this regard by Miñana et al.⁶

There is consensus on the quantitative and qualitative importance of obstructive symptoms, which are the most prevalent and determinant of prognosis in case of progression. However, irritative symptoms are those that affect the quality of life the most by disrupting the daily activities of the patients or the need to rest, as it is the case of nocturia. The impact of urgency and dribbling are also reflected, the latter particularly in young men. These perceptions are consistent with data from the scientific literature.⁷

Regarding the diagnosis, the consensus is consistent with the existing clinical practice guidelines in terms of the minimum assessment (anamnesis, physical examination with digital rectal examination, IPSS, test strip and sediment, creatinine if renal failure is suspected), although with certain exceptions that are interesting to note.⁸,⁹ On the one hand, the consensus is important in terms of the PSA value by itself as an instrument for the selection of the appropriate treatment, regardless of its use for prostate cancer screening. A good training and experience in its interpretation is considered necessary in this type of patients, which is of particular importance in the assessment by primary care.¹⁰,¹¹

Similarly, the uroflowmetry is considered necessary in the minimum assessment by the urologist as a tool to quantify the severity of the obstruction and the response to the treatment. The use of bladder diary is considered especially important for the assessment of urinary frequency and nocturia, especially when it affects elderly patients in whom we must rule out other causes of nocturnal polyuria. Regarding imaging techniques, the majority opinion in favor of performing urological ultrasound stands out, not only to assess the post-void residue, but also to assess the situation of the urinary tract, including the determination of prostate size and morphology as, overall, there has been no consensus regarding the PSA value in predicting the prostatic volume.

We can say that Spanish urologists believe almost unanimously that, based on the evidence,⁹,¹²–¹⁴ the step treatment of BPH is a practice to discontinue, indicating from the start the appropriate treatment for the patient in terms of their progression factors such as intensity of symptoms, prostate volume, and PSA, as defined in the algorithm of criteria¹⁰,¹¹ and NICE international guidelines, European¹³ and American¹⁴ of Urology.

In connection with the combination therapy in BPH there is agreement to recommend it in patients with enlarged volume prostates. Interestingly, one of the few questions without consensus points in the direction of the difficulty to define a large prostate. The NICE Guidelines⁵ establish a prostatic volume of 30 cm³ to define enlarged prostate, while neither Americans nor Europeans¹⁴ are positioned in a particular size of ‘enlarged prostate’, but it seems that they leave it to the criterion of the assessing doctor.

According to the evidence from the COMBAT study,¹,² and in accordance with the clinical practice guidelines, the panel reaches majority consensus in positions of agreement in which the patients with moderate to severe symptoms, enlarged prostatic volume (>30 cm³) and PSA ≥ 1.5 ng/ml benefit from initial combination therapy, particularly with dutasteride and tamsulosin.

Some of the items of surgical treatment show more differences of opinion, probably due to the difficulty posed by studies of surgical techniques. There was high consensus on the classical absolute indications of surgery. There was also unanimity in considering the patients with severe symptoms of BPH and failure of combination therapy due to lack of response as candidates for surgery, although the recommended maintenance period of medical treatment that some clinical practice guidelines estimate in a year was not clarified.⁹ The panel of experts also reached consensus when considering the low quality of life perceived by the patient and their therapeutic preference indicators for intervention.

With regard to the assessment of the minimally invasive transurethral techniques that have appeared in recent years as alternatives to TUR, there was a general agreement to consider that, in general, these therapies get similar results to conventional TUR, with fewer adverse effects despite the difference of scientific evidence that exists for the various techniques. The expert panel considered that the bipolar TURP is superior in terms of safety to conventional TUR, so they concluded that it was more advisable as a technique for TUR of the prostate, in clear tune with the acceptable scientific evidence that is currently available.¹⁵–²³

The panel of experts considered that the enucleation of the prostate with HoLEP, despite the poor dissemination and its long learning curve, was an effective alternative to open surgery for large prostates, consistent with the relatively strong scientific evidence today, although most existing randomized studies compare it to the TUR,²⁶–³⁵ and only a few do it with open surgery.³⁴–³⁶

More striking is the broad consensus expressed regarding the use of KTP laser, clarified in a subgroup of patients with comorbidity, although the expert committee pointed out the lack of solid scientific evidence. There are few randomized studies with TUR, with different power generators, which explain the disparity in the results presented²⁷–⁴¹ and only one compared to open surgery.⁴² At the time of writing this work, a second randomized study against TUR using the generator of 120 W⁴³ was published by a Spanish team.
In contrast, there was no consensus on whether only in patients with severe morbidity minimally invasive therapies may be an alternative to treatment and whether thermotherapy is the best long-term option, as well as whether stents are an effective alternative to the permanent probe, probably due to the limited experience accumulated in the literature. Finally, open surgery is advisable mostly in bulky prostates, especially if there are associated lithiasis or diverticula, Millin’s technique being the most advisable, in accordance with the scientific evidence that was presented.

We could summarize that the consensus group considers well defined the criteria for surgical indication, the role of the different prostate ablative transurethral techniques and the place open surgery occupies now. With regard to minimally invasive therapies, there is no consistent criterion among experts, lack of evidence of studies, or excessive heterogeneity in the results of the available works. In this case, the situation invites reflection on the relevance of developing well-designed scientific studies to elucidate the issue in our environment and make it possible to unify the opinion of the specialists.

Conclusions

The consensus reached in our country by a group of specialists is broadly in line with the latest scientific evidence in BPH, including the clinical practice guidelines. The importance of proper patient stratification, considering the risk of progression based on prostate volume and PSA, proves useful in the selection of drug therapy. It seems that the combination of dutasteride and tamsulosin is the most effective in symptomatic patients with PSA > 1.5 ng/ml and/or volumes greater than 30 cm³. The patients with moderate symptoms with no risk factors would be tributary of exclusive treatment with alpha blockers. From the review, the leading role that transurethral treatments alternative to conventional TUR are acquiring in our country, such as bipolar resection, laser vaporization, and Holmium laser enucleation, also emerges. The consensus recommendations for clinical practice from this study, proposed in the tables, should be considered valid on the date of preparation of this consensus and to the emergence of new scientific data to justify their future revision.

Conflict of interest

The authors declare that they have no conflict of interest.

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Appendix 1. Expert panel

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References