Prostate embolization: a new field of Interventional Radiology

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Abstract
Purpose: To report our initial experience with prostate embolization as an alternative treatment for benign prostatic hyperplasia (BPH) from a technical perspective and determine the contribution of imaging diagnosis.

Materials and methods: Sixteen patients with lower urinary tract symptoms due to benign prostatic hyperplasia underwent prostate embolization. All patients were evaluated with specific questionnaires to determine the severity of symptoms, the impact on quality of life and erectile function, and underwent pelvic ultrasound and MRI, uroflowmetry and PSA before and 30 days after the procedure.

Results: Embolization was successful in all patients; in 10 cases the procedure was performed bilaterally and in six, only one side was embolized. The average time for completion of the procedure was 82 minutes and the average fluoroscopy time was 38.5 minutes. All procedures were performed on an out patient basis with an average hospital stay of 6.4 hours. The mean contrast medium used was 175 ml. At 30 days there was a mean reduction of prostate volume of 21%. Clinical improvement was characterized by a mean 8-point improvement on IPSS, 2 points on QOL and 4 points on IIEF. The uroflowmetry improved by 39% and PSA dropped by 26%. No major complications implying unscheduled hospitalization or additional surgical procedures were observed. Minor adverse events were documented in 9 patients.

Conclusion: The initial results of prostate embolization as an alternative treatment for BPH indicate that it is a safe and effective procedure to be consolidated as a new field of action of interventional radiology.

Keywords: Benign prostatic hyperplasia; Prostatic adenoma; Arterial embolization; Interventional radiology.

Introduction
Benign prostatic hyperplasia (BPH) has a high prevalence rate in men from the age of 50, and further increases with age. BHP is a condition often associated with lower urinary tract symptoms (particularly decrease urine flow rates, frequent urination and urinary urgency), with an impact on the patient’s quality of life. Depending on the severity of symptoms and the clinical progress of BPH, there are a number of options for the management of this condition, ranging from observation to medication or surgical intervention. The efficacy demonstrated by drugs such as alpha-blockers and five-alpha reductase inhibitors has reduced indications for surgery. However, surgical management, either by transurethral resection or by open prostatectomy, is considered the treatment of choice in drug treatment-resistant patients or patients with urinary obstruction complications. Surgery is not exempt from risks, and associated complications may include: urinary tract infection, stenosis, postoperative pain, urinary retention or incontinence, sexual dysfunction and hemorrhages. For this reason, less invasive treatments have been developed with the aim of reducing the risk of morbidity related to standard surgical procedures. New therapeutic options include, but are not limited to: transurethral microwave thermotherapy, transurethral needle ablation, Holmium laser enucleation or resection, photoselective (green light laser) vaporization of the prostate, transurethral resection of the prostate using bipolar energy and transurethral incision of the prostate. However, it should be noted that these options have still not shown major efficacy in the management of symptoms of patients with BPH. Furthermore, these techniques are not widely available and are generally highly costly.
It has been recently suggested that prostate embolization (PE) for the treatment of BPH in men may be as effective as uterine embolization for the treatment of uterine fibroids in women. Preclinical experimental studies have demonstrated that PE is safe, does not cause erectile dysfunction and may reduce the prostate volume. The first clinical case was reported by DeMeritt et al., who used embolization to manage a case of hematuria caused by percutaneous biopsy in a patient with BPH. These authors did not only achieve hemostasis but also observed a significant clinical improvement in symptoms associated with BPH. Later, other authors also established that PE appeared to be safe and effective for the management of symptoms in patients with BPH. In this paper we report our initial experience with PE for the management of BPH from a technical perspective and determine the contribution of imaging diagnosis.

**Materials and methods**

This study was approved by the Institutional Ethics Committee for research protocols and all patients enrolled signed an informed consent. Between August 2012 and July 2013, 16 patients with a mean age of 72 years (range: 52-87) underwent PE as management for BPH. All cases were refractory to medical therapy and had an indication for surgery.

Patients were evaluated with specific questionnaires for grading lower urinary tract symptoms and their impact on the quality of life and erectile function. We used the *International Prostatic Symptoms Score* (IPSS) for grading symptoms, the Quality of Life Questionnaire (QOL) and the *International Index of Erectile Function* (IIEF), shown in Annex 1. In all cases, prostate specific antigen (PSA) serum levels were measured, the maximum urinary flow rate (Qmax) was determined by uroflowmetry, post-void residual (PVR) volume was estimated by ultrasound and magnetic resonance imaging (MRI) was performed to determine the volume and anatomical features of the prostate.

**Pre- and post-embolization prostatic magnetic resonance imaging protocol**

Pre-embolization MRI was performed within 7 to 10 days prior to the procedure, while the post-embolization follow-

![Figure 1 Pre-embolization prostatic magnetic resonance imaging, T2-weighted TSE images, (a) axial and (b) sagittal slices clearly show the hypointense band delimiting the true prostate capsule and multiple hyperplastic nodules of heterogeneous signal deforming the gland and compressing the peripheral zone, represented by a band in the posterior aspect of the gland. (c) Coronal slice showing the prostate gland replaced and deformed by multiple nodules. (d) Calculation of prostate gland volume.](image-url)
up was performed after 30 days. The scans were performed on a 1.5 Tesla scanner (Magnetom Avanto®; Siemens Medical Solutions, Erlangen, Germany), using a body phased array surface coil, and the posterior surface of the prostate was taken as reference for orientation of sequences. Axial and coronal sequences were oriented perpendicular and parallel to the prostate posterior surface, respectively. The protocol included non-contrast sequences: T1-weighted turbo spin echo (TSE) images in the axial plane and T2-weighted TSE images in the axial, sagittal and coronal planes, as well as diffusion/apparent diffusion coefficient in the axial plane (b value: 50, 400 and 1000 s/mm²). Additionally, dynamic sequences were used (3D Flash VIBE transverse) following the intravenous administration of gadolinium (gadoterate meglumine at a dose of 0.1 mmol/kg at a rate of 3 ml/s, followed by a 20-ml flush of saline solution injected at a similar rate), with consecutive acquisitions for 5 min (after contrast administration), and delayed sequences at 7 min with TSE images in the axial, coronal and sagittal planes. Prostate volumes were estimated by adding sections, which were assessed by a radiologist with a 15-year experience in urological imaging (fig. 1).

Angiography and embolization protocol

Prostate embolization was performed on an outpatient basis in all cases using a digital subtraction angiography unit (Artis Zeego®; Siemens Medical Solutions, Erlangen, Germany), located in the hybrid operating room of the Angiography and Endovascular Therapy Section. All patients had a bladder catheter placed and a dose of 400 mg ciprofloxacin was administered intravenously prior to the procedure. Intervention was performed under local anesthesia by percutaneous puncture and catheterization of the right common femoral artery. An aortic angiography was performed followed by selective angiography of both internal iliac arteries to assess the vascular anatomy of the pelvis, mainly focusing on the origin of prostate arteries (fig. 2). Once arteries where identified, they were selectively characterized with a microcatheter (Pro Great® 2.7, Terumo, USA, or Maestro® 2.4, Merit Medical, South Jordan, USA) advanced coaxially through a 5-F angiographic catheter. At the operator’s discretion, in doubtful cases, angiographic images were obtained by cone-beam computed tomography (CT).

Figure 2  Pelvic angiography for identification of prostate arteries. (a) Digital subtraction arterial angiography with the catheter placed on the left internal iliac artery. Left anterior oblique projection. Note the following branches: superior gluteal artery (GS), inferior gluteal artery (Gl), internal pudendal artery (Pl), obturator artery (O), prostatic-vesical trunk (VP), vesical artery (V), prostate artery (P) and hemorrhoidal artery (H). (b) Selective angiography of the prostatic-vesical trunk performed with microcatheter. (c) Angiography performed by superselective catheterization of the left prostate artery using a microcatheter. Note contrast retention by the gland (arrow).
With the microcatheter appropriately positioned, free-flow embolization was performed with trisacryl microspheres (Embosphere®, Biosphere Medical, South Jordan, USA) until the arterial flow to the prostate was occluded. After angiographic post-embolization follow-up, the catheter was removed and manual compression was performed at the puncture site. Patients were discharged 6 hours after the procedure, with no bladder catheter in place and with prescription of oral antibiotic therapy (ciprofloxacin 1 g QD) for 8 days and no steroidal anti-inflammatory drugs. All patients were contacted by telephone during the first week and symptoms or complications were recorded and classified according to the classification proposed by the American Society of Interventional Radiology18.

After 30 days embolization, a prostate MRI follow-up, uroflowmetry, PVR by ultrasound and PSA measurements were performed. Patients completed again the IPSS, QOL and IIEF questionnaires.

As this is a preliminary report with a limited number of patients and a short-term follow-up, no strict statistical analysis was performed. Categorical variables were expressed as percentage (%) and continuous variables were expressed with mean ± standard deviation.

Results

Embolization was bilateral in 10/16 (62.5%) patients and unilateral in 6/16 (27.5%). Unilateral embolization (3 cases) was performed because of the impossibility of catheterizing one of the prostate arteries due to abundant arteriosclerotic changes. In the remaining 3 cases, the existence of anastomosis between the prostate artery and other vessels (middle rectal artery, differential artery and cavernous artery) was documented, which precluded safe selective embolization.

The mean procedure time was 82 min (range: 50-138) and the mean fluoroscopy time was 38.5 min (range: 21-83). No clinical complications were seen during the procedure. Mean iodinated contrast consumption was 175 ml (range: 100-350). The left prostate artery (PA) was found to arise from the inferior vesical artery in 8 cases (forming a common trunk: prostatic-vesical trunk), from the internal pudendal artery in 4 cases, from the obturator artery in 1 case and directly from the anterior division of the internal iliac artery in 3 cases. The right PA arose from the inferior vesical artery (forming a common trunk: prostatic-vesical trunk) in 7 cases, from the internal pudendal artery in 2 cases, from the obturator artery in 2 cases, with the middle rectal artery in 1 case and directly from the anterior division of the internal iliac artery in 3 cases (fig. 3). In one case, there were 2 prostate arteries on the right side: one prostatic-vesical artery arising from the internal iliac artery and the other from the internal pudendal artery. In 9 cases, flat-panel detector cone-beam CT images were acquired for a safe identification of the prostatic arterial supply.

Clinical outcomes of treatment at 30 days are summarized in Table 1. There was no need to continue with specific prostatic medication in none of the patients during the 30-day
follow-up period. In 2/5 patients with acute urinary retention and indwelling bladder catheter prior to the procedure, the catheter could be definitely removed.

In all patients, pre-embolization MRI showed an increase in prostate size at the expense of the central gland, with compression and thinning of the peripheral gland. T2-weighted images showed glandular and stromal hyperplasia in all cases (fig. 4). Post-embolization MRI showed in all patients’ prostate volume reduction (average 21%) and a decrease in signal intensity of the gland on T2-weighted TSE images. Follow-up MRIs showed areas of decreased or no vascularitation, which was more evident in 11 cases. In these latter cases, MRI depicted diffuse a vascular areas in the central gland in 9 patients, a vascular areas with multiple nodules in 1 patient and avascularity in almost the whole central gland with heterogeneous hyperintense signal on T1-weighted images, a finding that

Table 1: Evolution of parameters investigated. Averages from values obtained are shown with their standard deviation.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Pre-PE</th>
<th>Post-PE</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPSS</td>
<td>17 points ± 5.5</td>
<td>9 points ± 4.8</td>
<td>Clinical improvement by 8 points</td>
</tr>
<tr>
<td>QOL</td>
<td>4 points ± 0.7</td>
<td>2 points ± 1.2</td>
<td>Improvement in quality of life by 2 points</td>
</tr>
<tr>
<td>IIEF</td>
<td>16 points ± 8.7</td>
<td>20 points ± 10.6</td>
<td>Improvement in erectile function by 4 points</td>
</tr>
<tr>
<td>PSA</td>
<td>4.3 ng/dL ± 7.3</td>
<td>3.2 ng/dL ± 5</td>
<td>Serum decrease of 1 ng/dL</td>
</tr>
<tr>
<td>Qmax</td>
<td>9 ml/s ± 4.9</td>
<td>12.5 ml/s ± 2.7</td>
<td>Improvement in urinary flow of 3 ml/s</td>
</tr>
<tr>
<td>PVR volume</td>
<td>88 ml ± 83</td>
<td>48 ml ± 34</td>
<td>Improvement in post-void urinary retention</td>
</tr>
<tr>
<td>Prostate volume</td>
<td>109 cc ± 51</td>
<td>87 cc ± 34</td>
<td>Prostate volume reduction of 21%</td>
</tr>
</tbody>
</table>

IIEF: International Index of Erectile Function; IPSS: International Prostatic Symptoms Score; PSA: Prostate Specific Antigen; Qmax: maximum urinary flow; QOL: quality of life; PVR: post-void residual

Figure 4 Pre- and postembolization prostatic MRI. When comparing (a) pre-embolization T2-weighted TSE images with (b) postembolization T2-weighted TSE images, we can see prostate volume reduction, absence of the bladder catheter and multiple nodules with a decreased signal (arrows) in the central gland. Comparing (c) pre-embolization T1-weighted TSE images with (d) post-embolization T1-weighted TSE images, focal hypointense areas on T2-weighted images appear as hyperintense areas on T1-weighted images (arrows), a finding that is consistent with a hemorrhagic component (hemorrhagic necrosis). Comparison of intravenous contrast-enhanced images in (e) pre-embolization contrast-enhanced T1-weighted TSE images and (f) post-embolization T1-weighted TSE images shows no contrast uptake, which can be attributed to post-embolization avascularity (arrows).
was interpreted as hemorrhagic component associated with avascularity. Of the 5 remaining patients, 2 showed signs of avascularity involving the central and peripheral gland, 2 showed avascularity predominantly on the left half of the gland and 1 had bilateral avascularity. Only 9/16 patients experienced minor complications or adverse effects, all of them being grade B according to the classification proposed by the American Society of Interventional Radiology (table 2). There were three cases of urinary infection (rapidly resolved with antibiotic therapy) and one patient developed acute urinary retention (requiring transient bladder catheter for 25 days). Adverse side effects included burning during urination in 4 patients, which resolved with oral corticosteroids, a single event of rectal bleeding in one patient and transient hematospermia in 5 cases.

**Discussion**

Embolization is an interventional radiology technique that has been used in medicine for almost 40 years and that has proven to be very useful for resolving various conditions in different parts of the human body. Specifically in urology, this method is used to control hemorrhage caused by trauma, tumors or vascular disorders, as well as for the treatment of varicocele. In the last decades, embolization became established as treatment of uterine fibroids based on level A scientific evidence, as highlighted by the American College of Obstetricians and Gynecologists. Curiously enough, uterine fibroids share some similarities with prostate adenoma: apart from being related to hormonal dependency, both are highly prevalent genital conditions, characterized by the presence of smooth muscle and stroma. For this reason, it is not surprising that the following hypothesis should have arisen: if embolization is effective for treating uterine fibroids, will it be equally effective for treating prostate adenoma?

The observation by DeMeritt et al. led to the development of specific research on this issue. Several studies have been recently published that conclude that embolization appears to be a safe and effective technique for BPH symptoms management. The study having the largest number of cases (over 250 cases) and the longest follow-up demonstrated control of symptoms in 72% of patients at 36 months. This study is only a preliminary report on the immediate effects of PE in patients with BPH, but our results show, from the clinical improvement achieved, that embolization is a reproducible and promising method. All objective assessments, such as IPSS, quality of life and erectile function scores, PSA and uroflowmetry improved significantly after PE.

Pisco et al. in their original article about the first 15 patients treated with PE report a mean prostate volume decrease of 26.5% at 30 days. In a later study conducted in a...
much larger number of patients the same authors\textsuperscript{28} reported a mean prostate volume decrease of 20\% (a similar result to that obtained from our series). However, a direct relationship between prostate volume decrease and clinical improvement could not be demonstrated: Pisco et al\textsuperscript{16} reported 33 patients with no clinical improvement despite a prostate volume decrease of over 15\%, while in the same paper they reported 12 cases of prostate volume increase after treatment, with clinical improvement.

The use of MRI for pre- and post-procedure assessment also results from the knowledge gained in the treatment of uterine fibroids\textsuperscript{29}. It is well known that MRI is an imaging method that provides high tissue contrast and shows more detailed prostate anatomy and changes in vascularity, in addition to allowing measurement of the prostate gland volume. The use of the same imaging protocol for pre- and post-embolization assessment reduces variability in comparison. T2-weighted sequences are the most useful to show prostatic anatomy and identify signal changes in the glandular and stromal component before and after treatment\textsuperscript{30}. The use of T1-weighted TSE sequences, with and without intravenous contrast, allowed identification of both avascular areas and hemorrhagic changes secondary to necrosis resulting from embolization. Even if bilateral embolization is advisable for the treatment of the entire gland involved, a good response may be observed even with unilateral embolization. In effect, Bilhim et al\textsuperscript{31} reported symptom relief in almost half the patients who underwent unilateral embolization. In our series, effects were satisfactory in patients treated with unilateral embolization and those undergoing bilateral embolization, but the absence of negative results may be due to the limited sample size.

The origin of prostatic-vesical arteries is variable. In the elderly, arteries may be tortuous and elongated, and may also have atheromatous stenotic/occlusive lesions\textsuperscript{31,32}. Accurately identifying the origin of prostate arteries, navigating within an arterial network with accentuated curves and localized narrow segments and performing super selective catheterization of very fine arteries is the specific technical challenge of this procedure. In our study, the presence of atherosclerotic vessels precluded bilateral selective catheterization and thus, bilateral embolization in 3 patients (fig. 5).

Comprehension of the functional arterial anatomy is crucial to perform a correct procedure and avoid complications\textsuperscript{32}. The prostate artery is in close relationship with bladder, rectal and ejaculatory system vessels\textsuperscript{32}. Furthermore, there are various anastomoses with the rectal and internal pudendal artery\textsuperscript{31,32}, which may pose a potential risk for the passage of particles through these communications, with the resulting ischemia of non-prostatic tissues. In our initial series, this situation was seen in 3 cases and we decided to avoid embolization for fear of causing undesired ischemic complications. Thus, recognition of the prostate artery in the angiographic procedure is crucial for an effective and safe treatment\textsuperscript{31,32} (figs. 6 and 7).

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure6.png}
\caption{Vascular abnormalities commonly observed in patients with arteriosclerosis impairing intravascular maneuvers during prostate embolization. (a) marked tortuosity of the left iliac artery. (b) stenosis in the origin of the right internal iliac artery (arrow). (c) occlusion of the left internal iliac artery (arrow). (d) Stenosis in the origin of the left prostate artery (arrow). (e) stenosis in the origin of the right prostatic-vesical trunk (arrow). (f) stenosis in the origin of the anterior division of the right internal iliac artery (arrow).}
\end{figure}
Pisco et al. suggest using multidetector CT angiography as routine testing during screening for prior identification of anatomic variants and establishing the procedure's degree of technical difficulty. Even if this may provide further anatomical data, this method has not been globally validated yet, and therefore this test has not been performed in any of our patients.

Another potentially useful tool in selected cases is the cone-beam CT, as it allows the acquisition of CT angiograms in various planes from a rotational angiography. Cone-beam CT is advanced technology that uses C-arm flat-panel fluoroscopy systems to acquire and display three-dimensional (3D) images. As it provides high- and low-contrast soft tissue (CT-like) images in multiple viewing planes, it constitutes a substantial improvement over conventional single-planar digital subtraction angiography and fluoroscopy. This resource (available at our department) enabled us to identify extra prostatic vessels in doubtful cases, thus avoiding potential complications.

PE causes minimal side effects and it is virtually painless. In our series, it was rarely necessary to prescribe potent analgesics and all patients asked to be discharged after a few hours at rest. This excellent tolerance to treatment offers a further advantage for patients and also has a beneficial impact on hospital bed occupancy.

When adverse effects or complications of PE occurred in our study, they were minor and of little concern, as they did not require hospitalization or additional procedures, except for one case in which the patient developed acute urinary retention and required a transient bladder catheter for 25 days. This complication was also reported by other authors and is related to the inflammation caused by ischemia of the prostate gland tissue.

Limitations of our study include the small number of patients, the short-term follow-up and the lack of comparison of PE with other treatments. Nonetheless, our objective was to show the safety and efficacy of this new therapeutic alternative and its potential benefits in a preliminary series of cases treated at our institution.

Undoubtedly, further studies are needed in a larger number of patients with longer follow-up to assess the true applicability of this technique within the battery of therapeutic options available for BPH. In addition, a large number of clinical issues remain to be investigated, including identification of subsets of patients in relation to prostate volume, degree of occlusion, severity of symptoms, as well as efficacy and durability of treatment for a better therapeutic management. Other technical aspects, such as the type and size of particles that should be used and/or the need for unilateral or bilateral embolization, also remain to be defined. These issues will surely be addressed in future research.

Figure 7 Anastomosis of the prostate artery with other pelvic branches. (a) Communication of the vesical-prostatic trunk with the right (D) deferential artery. (b) Communication with the left cavernous artery (C). (c) Communication with the superior hemorrhoidal artery, tributary of the inferior mesenteric artery (MI).
Conclusion

In this preliminary institutional study, prostate embolization proved to be a feasible and safe procedure, with good control of symptoms in the short term, as prostate volume reduction was achieved with no erectile dysfunction or other major complications, as already reported in the worldwide literature.

Conflicts of interest

The authors declare no conflicts of interest.

Figure 8 Images acquired by cone-beam CT. (a) Selective angiography performed with the micro catheter placed inside a branch arising from the left internal pudendal artery (PI), with features generating some doubts about the irrigated tissue. (b) The CT image acquired by digital angiography shows contrast retention on the left prostatic bed (arrow). (c) Selective angiography performed with the micro catheter placed inside a branch arising from the right internal pudendal artery, with features generating doubts about the irrigated tissue. (d) The CT image obtained by digital angiography shows contrast retention on the rectal wall (arrow), allowing identification of the hemorrhoidal artery and avoiding embolization.
## Annex 1

### International Prostate Symptom Score (IPSS) Questionnaire

<table>
<thead>
<tr>
<th>Over the past month</th>
<th>Not at all</th>
<th>Less than once</th>
<th>Less than half the time</th>
<th>Half the time</th>
<th>More than half the time</th>
<th>Almost always</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Incomplete emptying</strong></td>
<td>How often have you had a sensation of not emptying your bladder completely after you finish urinating?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td>How often have you had to urinate again less than two hours after you finished urinating?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td><strong>Intermittency</strong></td>
<td>How often have you found you stopped and started again several times when you urinated?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td><strong>Urgency</strong></td>
<td>How difficult have you found it to postpone urination?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td><strong>Weak stream</strong></td>
<td>How often have you had a weak urinary stream?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td><strong>Straining</strong></td>
<td>How often have you had to push or strain to begin urination</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### Nocturia

How many times did you most typically get up to urinate from the time you went to bed until the time you got up in the morning?

<table>
<thead>
<tr>
<th>None</th>
<th>1 time</th>
<th>2 times</th>
<th>3 times</th>
<th>4 times</th>
<th>5 times</th>
<th>more</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>----</td>
<td></td>
</tr>
</tbody>
</table>

**Total IPSS score.**

Interpretation of total IPSS score: 0-7 = mildly symptomatic; 8-19 = moderately symptomatic; 20-35 = severely symptomatic.

### Quality of life due to urinary symptoms

If you were to spend the rest of your life with your urinary condition the way it is now, how would you feel about that? (choose one option)

<table>
<thead>
<tr>
<th>Delighted</th>
<th>Pleased</th>
<th>Mostly satisfied</th>
<th>Mixed</th>
<th>Equally satisfied / dissatisfied</th>
<th>Mostly dissatisfied</th>
<th>Unhappy</th>
<th>Terrible</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>----</td>
<td></td>
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</table>
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