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Updated American Urological Association Guidelines for the Management of Benign Prostatic Hyperplasia: Prostatic Artery Embolization Made it into the Guidelines!

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Introduction

We have read with great interest the updated American Urological Association (AUA) guidelines for the management of benign prostatic hyperplasia (BPH), which now include prostatic artery embolization (PAE) as a treatment alternative for symptomatic patients [1]. This is the culmination of a 15-year effort, beginning with animal studies and early human trials of PAE from 2008 to 2011 [2, 3], further informed by Cardiovascular and Interventional Radiological Society of Europe (CIRSE) and Society of Interventional Radiology (SIR) consensus statements in 2014 and 2019 [4, 5], and ultimately driven by consistently positive results in large cohort studies, randomized controlled trials, and sham studies of PAE [6–9].

In this remarkable advancement, we applaud our urology colleagues for their dedication to patient-centered care. The recognition of PAE as a safe and effective treatment continues a pattern of collaboration between urology and interventional radiology which was born with management of urinary obstruction and stone disease, and has flourished with expanding alliances in treating renal tumors and prostate cancer diagnostics and therapy. Given the prevalence of BPH, and the degree to which lower urinary tract symptoms (LUTS) can affect quality of life, this may be the most meaningful collaboration of all.

Impact Inside the USA

We expect that the inclusion of PAE into the updated AUA guidelines could lead to several effects in the USA:

1. Increased awareness of PAE. The ubiquity of the AUA guidelines will lead to increased knowledge and discussion of PAE as a treatment option for patients with LUTS. PAE can be a compelling alternative to long-term medical management [10] or more invasive urologic surgeries, particularly in patients who desire an alternative to traditional therapies, and those who fail or are not candidates for such therapies. Thanks to the new guidelines, more urologists and patients will be exposed to the advantages of PAE.
2. An expansion of the population seeking treatment for LUTS. Many patients with BPH–LUTS are "silent sufferers," patients who have symptoms adversely affecting their quality of life, but who do not wish to undergo surgery. These patients often seek urologic management by their primary care physician or avoid medical care entirely. PAE offers a minimally invasive treatment which may be more acceptable to these

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patients, thanks to its high degree of safety, rapid recovery, and preservation of sexual function. Such patients, co-managed by urology and interventional radiology, will benefit from expert work-up and appropriate counseling and treatment for all forms of prostate disease.

3. As a direct result of #1 and #2, the widespread acceptance of PAE is expected to significantly increase its demand in the coming years. This surge will necessitate a greater number of well-trained interventional radiologists who understand the management of patients with BPH. Initially, PAE was primarily offered at large academic centers; however, the future will witness a remarkable rise in PAE volumes within community IR practice. Given its outpatient nature, minimal invasiveness, and minimal sedation requirement, PAE is exceptionally well-suited for the office-based lab (OBL) environment.
4. Expansion of insurance coverage for PAE. The designation of PAE as "experimental" in the previous AUA guidelines created significant hurdles in securing insurance coverage for patients. This often resulted in the need for multiple appeals, peer-to-peer discussions, and even outright denials of payment. This revision of the guidelines should prompt insurance policy documents to be revised accordingly, ensuring that patients who are suitable candidates for PAE can receive the necessary coverage.
5. Increased study of new applications of PAE. Further development and applications of PAE could include neo-adjuvant use prior to radiation or surgery, treatment of prostate cancer, and comparison of PAE to urologic minimally invasive surgical therapies (MIST).

While we in the IR community laud the inclusion of PAE into the new AUA guidelines, much work remains. PAE joins a crowded treatment space for BPH, already occupied by open and robotic resection, trans-urethral resection of the prostate (TURP), holmium enucleation of the prostate (HoLEP) and other laser therapies, and a wide variety of constantly evolving urologic MIST. The lack of comparative data, overlapping indications, and wide variability of treatment availability and expertise make appropriate treatment of BPH–LUTS confusing for both patients and practitioners. Clearer guidelines are needed on which treatment should be offered to which patient based on morphology, surgical risk, bladder function and desire for ejaculatory function, particularly among the MIST.

PAE benefits from being a completely novel and different approach to BPH, one that avoids trans-urethral access, requires minimal sedation, and can be applied to a wide range of clinical situations with few contraindications. Although we hope urologists will offer an unbiased depiction of PAE to their patients, IR will need to advocate strongly for the appropriate incorporation of PAE and build practices that provide comprehensive evaluation, while continuing to seek collaboration from both urologists and general practitioners. This guideline inclusion is a large step forward on the journey to improve men's health and quality of life worldwide.

Impact Outside the USA

USA guidelines have a strong impact on the practice of medicine worldwide. However, as Europeans, the European Association of Urology (EAU) guidelines have an outsized role in guidance across the country members [11]. We must not forget that we also have IR guidelines and position statements regarding PAE and BPH and LUTS [5, 12]. One might wonder why the urological guidelines should be any different from the IR guidelines, considering that the underlying evidence is the same. It is like looking at a glass of water: half-full or half empty? If guidelines are different, which should we adopt? And why? Ideally, multidisciplinary guidelines (such as the NICE guidelines from the United Kingdom) should be used when making relevant decisions where all parties have a say. Interestingly, these multidisciplinary guidelines were the first ones to adopt PAE (in 2018), even before the SIR and CIRSE [13].

Within urology, the EAU guidelines were pioneers, as they were the first to accept PAE as a valid treatment option for patients with LUTS and BPH in 2021. Though the guidelines stated PAE should still be considered experimental, PAE could be offered to patients in standard clinical practice. Looking at the same glass of water, the trans-Atlantic counterparts were reluctant to even address PAE until their 2019 guidelines. The 2019–2022 AUA guidelines finally took a position regarding PAE for the management of patients with LUTS. However, PAE was proposed to be only acceptable within the confines of clinical trials. This was very different from the EAU guidelines, as it precluded the use of PAE in regular clinical practice. But did it stop PAE from being performed in USA? No. It only undermined the credibility of the AUA.

Maybe looking at this "real-life" evidence, the AUA finally decided to include PAE in the management of patients with LUTS and BPH.

Why is this relevant for IR practice? Well, imagine an IR wants to start a PAE practice in a hospital and the urology department does not support it. Now, the IR can show hospital administrators and urology colleagues both the EAU and AUA guidelines. PAE is no longer experimental. PAE is not dangerous. It has comparable radiation exposure to other IR procedures and requires an operator learning curve that mirrors standard urological surgeries [14]. PAE preserves sexual function in both erectile and ejaculatory domains [10]. The question is another then: PAE for whom? How to decide? That is an easy answer—all urology guidelines agree that it should be a patient-centered decision after counseling about the pros and cons of all available options [1, 11]. We just need to inform patients and let them decide!

So, PAE is in the guidelines—PAE practice will boost worldwide now! Will that be true? Where have I seen this before? Uterine artery embolization (UAE) was adopted in the gynecology guidelines over 20 years ago. However, trends over the last decades regarding treatment of women with fibroids show a continued growth in the number of hysterectomies while the number of women treated with UAE declined from 18% in 2005 to 4% in 2013 [15]. Similarly, as the prior AUA guidelines did not stop the practice of PAE, the new guidelines will hardly push PAE into the spotlight. As with UAE, this will mostly depend on IRs and how they build their clinical practice. This is the necessary next step to implement IR treatment options after guideline acceptance. If we only wait for referrals from other physicians, we may be left waiting forever.

Conclusion

The American Urological Association's adoption of PAE into the updated guidelines has the potential to drive positive change in BPH–LUTS treatment by promoting innovation, awareness, and collaboration. Together, urology and IR can pave the way for a new era of patient-centered and minimally invasive prostate care.

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Declarations

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