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Editorial

In Benign Prostate Hyperplasia Where does Prostate Artery Embolization Stand?

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Benign Prostatic Obstruction (BPO) involves about 50% of men aged 50-60 years. They suffer from Lower Urinary Tract Symptoms (LUTS) characterized by voiding and storage problems. Surgical treatment may be required when conservative alternatives fail [1]. Transurethral Resection of the Prostate (TURP) has been the surgical gold standard throughout the past years. TURP facilitates symptomatic improvements measured by the International Prostatic Symptom Score (IPSS) including Quality of Life (QoL), urinary flow rate (Qmax), Postvoid Residual Volume (PVR), and Prostate Volume (PV) but, complications of TURP include retrograde ejaculation, incontinence, urethral stricture (6.2%), and transurethral resection syndrome. Prostate Artery Embolization (PAE) is an interventional radiological procedure performed under local anesthesia. The main prostatic arteries are catheterized, and small biocompatible microspheres are injected. These block the terminal vessels, leading to reduced perfusion and subsequent size reduction of the hyperplastic gland. Decreased PV by PAE was first described in 2000, followed by two case studies in 2009. In 2018, PAE was included in the UK guidance, and since 2021, it has been recommended according to the European Association of Urology (EAU) guidelines for men with moderate-to-severe LUTS.

PAE is safe and effective in the management of Haematuria of Prostatic Origin (RHPO). The use of a superselective approach optimizes clinical success while minimizing complications [2]. PAE is non-inferior to TURP with regard to improving patient-reported outcomes, though most functional parameters undergo more changes after TURP than after PAE. Moreover, PAE can significantly continue to relieve symptoms for 24 months without causing serious complications [3,4]. On the other hand, there is increasing public interest and knowledge of and about the procedure in addition to other Interventional Radiologic (IR) practices [5-7]. The UK-ROPE study adds to the growing body of evidence that indicates that PAE is a safe and efficacious procedure, providing clinically significant improvements in IPSS score over a 12-month follow-up period. Comparative analysis showed that, while PAE was efficacious, it was not non-inferior to TURP in IPSS improvement. PAE may offer other benefits such as shorter hospital stay and faster return to normal activities. Although the UK-ROPE study is not a Randomized Controlled Trial (RCT), it is the first multicentre UK-based study on PAE, and should be considered complementary to the international RCTs that have emerged since 2013 [8]. Patients with larger prostates have a higher chance of success with PAE [9].

Although the improvement in lower urinary tract symptoms secondary to benign prostatic hyperplasia seen 12 weeks after PAE is close to that after TURP, however, PAE is associated with fewer complications than TURP but has disadvantages regarding functional outcomes [10]. Anejaculation occurs less frequently after PAE (16%) compared to TURP (52%) [11]. In spinal cord injury (SCI) PAE proved to be a safe and effective treatment for BPH to facilitate Intermittent Catheterization (IC) [12].

Patients to be informed that there is no major difference in improvement between voiding- and storage-related symptoms, both being roughly halved. The effects were apparent after 1 mo and persisted during 2 yr of follow-up [13]. Proper patient selection and thorough evaluation is critical to ensure clinical success. . Future studies comparing PAE to TURP and possibly other minimally invasive therapies will be critical in identifying exactly where PAE falls in the treatment algorithm for patients suffering from LUTS related to BPH [14]. Finally, although 10.3% of patients undergoing PAE develop ejaculatory dysfunction but preferably prospective, data are needed to determine the true rates of ejaculatory dysfunction following PAE [15].

References

1. Anne Tabea Theurich, Lutz Leistritz, Katharina Leucht, Tobias Franiel , Ulf Teichgräber (2022) Influence of Prostate Artery Embolization on Different Qualities of Lower Urinary Tract Symptoms Due to Benign Prostatic Obstruction. European Association of Urology 2022.

2. Keith Pereira, Joshua A. Halpern, Timothy D. McClure, Nicholas A. Lewis et al. (2016) Role of prostate artery embolization in the management of refractory hematuria of prostatic Origin. BJU Int 118: 359-365.

3. Peng Xiang, Di Guan, Zhen Du, Yongxiu Hao, et al. (2021) Efficacy and safety of prostatic artery embolization for benign prostatic hyperplasia: a systematic review and meta-analysis of randomized controlled trials , European Radiology 31: 4929-4946.

4. Dominik Abt, Gautier Mu¨llhaupt, Lukas Hechelhammer, Stefan Markart, et al. (2021) Prostatic Artery Embolisation Versus Transurethral Resection of the Prostate for Benign Prostatic Hyperplasia: 2-yr Outcomes of a Randomised, Open-label, Single-centre Trial EUROPEANUROLOGY 80: 34-42.

5. Cusumano LR, Mathevosian S, Sayre JW, McWilliams (2022) Public Interest in Prostatic Artery Embolization: An Analysis of Search Query Data UCLA Radiol Sci Proc 2: 1-6.

6. Alexander S. Somwaru , Stephen Metting, Laura M. Flisnik, Michael G, et al. (2020) Prostate artery embolization has long term efficacy for treatment of severe lower urinary tract symptoms from giant prostatic hyperplasia. BMC Urol 20: 153.

7. Joa˜o Martins Pisco, Tiago Bilhim, Nuno V. Costa, Daniel Torres (2020) Randomised Clinical Trial of Prostatic Artery Embolisation Versus a Sham Procedure for Benign Prostatic Hyperplasia. EUROPEAN UROLOGY 77: 354-362.

8. Alistair F. Ray, John Powell, Mark J. Speakman, Nicholas T. Longford (2018) Efficacy and safety of prostate artery embolization or benign prostatic hyperplasia: an observational study and propensity-matched comparison with transurethral resection of the prostate (the UKROPE study) BJU Int 122: 270-282.

9. Dominik Abt, Gautier M€ullhaupt, Livio Mordasini, Sabine G€usewell (2019) Outcome prediction of prostatic artery embolization: post hoc analysis of a randomized, open-label, non-inferiority trial. BJU Int 124: 134-144.

10. Dominik Abt, Lukas Hechelhammer, Gautier Mullhaupt, Stefan Markart (2018) Comparison of prostatic artery embolisation (PAE) versus transurethral resection of the prostate (TURP) for benign prostatic hyperplasia: randomised, open label, non-inferiority trial. BMJ 361: k2338.

11. Gautier Müllhaupt, Lukas Hechelhammer, Pierre-Andre Diener, Daniel S. Engeler (2020) Ejaculatory disorders after prostatic artery embolization: a reassessment of two prospective clinical trials. World Journal of Urology 38: 2595-2599.

12. Gianluca Sampogna, Fabiane Barbosa, Pietro Maria Brambillasca, Emanuele Montanari (2022) Prostatic artery embolization in people with spinal cord injury: a safe and effective technique to ease intermittent catheterization in case of concomitant benign prostatic hyperplasia. Spinal Cord Series and Cases 8: 34.

13. Anne Tabea Theurich, Lutz Leistritz, Katharina Leucht, Tobias Franiel (2022) Influence of Prostate Artery Embolization on Different Qualities of Lower Urinary Tract ymptoms Due to Benign Prostatic Obstruction. European Association of Urology 2022.

14. Sailendra G. Naidu, Harish Narayanan, Gia Saini, Nicole Segaran (2021) Prostate Artery Embolization—Review of Indications, Patient Selection, Techniques and Results. J. Clin. Med 5139.

15. Shamar Young, Patrick Moran, Jafar Golzarian (2022) Ejaculatory dysfunction following prostate artery embolization: A retrospective study utilizing the male sexual health questionnaireejaculation dysfunction questionnaire. Société française de radiologie 2022.