

## Prostate Artery Embolisation: Expanding Options for Men with Benign Prostatic Hyperplasia

### Background

Benign prostatic hyperplasia (BPH) is common in older men, with a reported prevalence of 80% amongst men over 70 years of age (1). The associated lower urinary tract symptoms (LUTS) can have a significant impact on quality of life. The management strategy for BPH has traditionally consisted of 3 elements: lifestyle modification first, medications second and, if all else fails, surgery (2). This is most commonly with transurethral resection of the prostate (TURP). TURP is associated with significant side effects: a majority develop retrograde ejaculation, and other risks include urinary tract infections, urinary incontinence and urethral strictures (3). In addition, many men with BPH are too frail for surgery. This has created an unmet need for a truly minimally invasive treatment modality.

### The Procedure

Prostate artery embolisation (PAE) is a novel treatment for BPH, pioneered by interventional radiologists. Intravascular access is obtained, usually via the femoral artery (4). Catheters are introduced and advanced under imaging guidance, with the aim of embolising the prostatic arteries bilaterally (4). The subsequent infarction of the prostate causes a reduction in prostate volume, with a consequent reduction in LUTS. The procedure is performed with local anaesthetic.

As an intravascular procedure, PAE avoids the inherent risks associated with transurethral access altogether. In addition, PAE is usually performed as a day-case, unlike TURP which typically requires a stay in hospital (4, 5).

### Evidence

Various trials have shown that PAE is an effective treatment modality for men with BPH. Pisco et al. (6) found that the clinical success rate from PAE at medium-term follow-up was 82%. Of the 630 patients in the study, only 2 had major complications (0.3%). A study from Bagla et al. (7) showed improvement in all measured parameters, including prostate volume, peak urine flow rate and erectile function. The UK ROPE study compared PAE with TURP (8). They found that both significantly improved LUTS, though TURP was more effective. There was a 20% re-operation rate with PAE, due to failure of PAE to control symptoms. Of note, a majority of PAEs were day-case procedures, whereas 80% of the TURPs required admission for at least 1 night in hospital.

As the procedure matures, more data is emerging about the factors that predict a good clinical outcome (9). We should expect clinical success rates to increase as patient selection becomes more sophisticated and the procedural technique itself is refined.

### Future

PAE represents a significant expansion in the options for men with BPH. As a truly minimally invasive procedure, PAE will be suitable for many elderly men who are presently too frail for surgery. In the future, men could proceed directly to PAE for BPH refractory to medical management. For many

men, they would only proceed to TURP where PAE has failed. Given clinical success rates in the literature of circa 80% for PAE (6), this heralds a paradigm shift in the management of BPH.

WORD COUNT EXCLUDING REFERENCES: 495

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