The impact of prostate artery embolization (PAE) on the physical history and pathophysiology of benign prostatic hyperplasia (BPH)

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Summary

Aim: Prostate artery embolization (PAE) is a non invasive modality for the treatment of benign prostate hypertrophy (BPH) related lower urinary tract symptoms (LUTS). As a relatively new procedure, data determining the clinical success is somehow scarce. In the present article we aim to investigate the potential role of elastography on the evaluation of clinical success of PAE on the treatment of benign prostatic hyperplasia (BPH).

Materials and methods

A search was performed in MEDLINE, NCBI, Pubmed, Cochrane Library and other electronic libraries using the terms: “prostate artery embolization AND benign prostatic hyperplasia”. The articles selected were checked for the relevancy of their content to the discussed subject. The bibliographic information in the selected articles was checked for relevant publications that had not been included in the original search.

Results

Since 2008 when embolization of prostatic arteries for the treatment of LUTS associated with BPH has been held for the first time, a total of 104 articles on PAE were published. After being checked for the relevancy of their content to the discussed subject, 22 papers were discarded after lecture of summary and 61 after lecture of the full paper. Finally, 21 peer-reviewed studies providing data on one or more clinical outcomes were retrieved. A recent meta-analysis of 6 large studies showed improvement in $Q_{max}$, PVR, IPSS, and QoL endpoints at 12 months, with a low incidence of serious adverse effects (0.3%). Another recent meta-analysis of three studies comparing PAE with other treatments found greater maximum urine flow restoration and reduction in prostate volume in PAE group in relation to controls (4). Current experience shows also promising results in symptom remission and improvements in quality of life. However the overall number of PAE patients and studies meeting reliability criteria is small. Moreover, no generally accepted definition for clinical success exists (Table 1). In fact, principal outcome assessment varies among studies and could be either objective or subjective, laboratory, clinical or both. For example, regaining the ability to urinate after PAE is a measurable size whereas questionnaire-based self-reported improvement of both urination and QoL are not. Furthermore, as long as the exact mechanism by which...