

3:45 PM

Abstract No. 268

Prostate artery embolization may improve erectile function with no deleterious effect on ejaculation: a retrospective review of 53 patients

S. Bhatia, S. Tewari, C. Gomez, B. Kava, V. Sinha, G. Narayanan; University of Miami, Miami, FL

Purpose: Traditionally, surgical treatments for BPH such as transurethral resection of prostate (TURP) and photoselective vaporization (PVP) have resulted in significant adverse sexual effects, such as retrograde ejaculation or erectile dysfunction [1,2]. We evaluated the impact of prostate artery embolization (PAE) on erectile and ejaculatory function in a cohort of men undergoing PAE.

Materials: In this IRB-approved, single-institution, retrospective study we evaluated 53 consecutive patients. We evaluated the baseline demographics, technical success, (defined as bilateral PAE), International Prostate Symptom Score (IPSS), quality of life (QoL), prostate volume (PV), and the Sexual Health Inventory for Men (SHIM) scores.

Results: Technical success was achieved in 94.3% of patients (50/53). Of cases with technical success, average SHIM score at baseline and both 1 and 3 months post PAE was 13.3, 13.5, and 16.2, respectively. At 3 months, 64% (32/50) had improvement, 16% (8/50) demonstrated no change, and 20% (10/50) had negative change in SHIM score. Average overall change at 3 months was + 2.9 (21.7%), which was statistically significant ($p = 0.02$). Those patients who experienced improvement in erectile function had a mean increase of 5.1 points (41.4%) ($p < 0.05$). Those with negative change had a mean decrease of -2.6 (18.7%), which was not statistically significant ($p = 0.23$). No patient reported new onset of retrograde ejaculation following PAE. Mean IPSS at baseline and at 1 and 3 months post PAE were 25.8, 8.8 and 7.4. Mean QOL scores at baseline and at 1 and 3 months were 4.9, 1.8 and 1.3, respectively. PV at baseline and 3 months post PAE was 111.0g and 71.2g respectively. A single major complication (1/53) of urosepsis was successfully treated with intravenous antibiotics.

Conclusions: Prostate artery embolization is associated with statistically significant improvement in erectile function with over 60% of patients experiencing improvement at 3 month follow-up. Additionally no patients experienced ejaculatory dysfunction. PAE offers an excellent alternative to surgical options, such as TURP and PVP, with a high rate of technical success and favorable impact on sexual function.

3:54 PM

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Nocturia and quality of life after prostate artery embolization

S. Bhatia¹, S. Tewari¹, C. Gomez¹, B. Kava¹, V. Sinha¹, G. Narayanan¹; ¹University of Miami, Miami, FL

Purpose: To evaluate the impact of prostate artery embolization (PAE) on nocturia and quality of life (QoL).

Materials: With IRB-approval, all PAEs performed by interventional radiology between April 2014 through May 2016 were retrospectively reviewed. 83 such cases were identified. Inclusion criteria consisted of any patient on whom

prostate artery embolization (PAE) was performed for the treatment of benign prostate hyperplasia (BPH) and had received at least 3 months post procedure clinical follow up. Exclusion criteria consisted of the patient being on any clinical trial or if PAE was performed for a different clinical symptom or diagnosis other than uncomplicated BPH, including recurrent infection, acute urinary retention, indwelling catheter, chronic intermittent catheterization, or prostate cancer. Overall 45 patients were excluded from review, leaving 38 patients treated with PAE for BPH as the study group. Patient demographics, clinical symptoms, consultation history, and procedural details were retrospectively reviewed in the medical record.

Results: PAE technical success was achieved in 100% of patients (38/38) with no cases of major complication. Average episodes of nightly nocturia at baseline and at 3 months was 3.2 and 1.6, respectively. Average change in nightly nocturia, 1.6 episodes, was statistically significant ($p < 0.005$) and similar to reported statistics on the effect of transurethral resection of prostate on nocturia[1]. QoL at baseline and 3 months was 4.9 and 1.5, respectively, which was also statistically significant ($p < 0.005$). 11 of 38 (28.9%) patients reported nocturia as the most bothersome symptom related to their BPH.

Conclusions: Prostate Artery Embolization is associated with statistically significant improvement in nocturia and quality of life. The procedure has a high rate of technical success and favorable complication rate.

4:03 PM

Abstract No. 270

Improvement of which lower urinary tract symptom most contributes to quality of life improvement after prostatic artery embolization?

A. Lustig¹, H. Yu¹, H. Desai², A. Isaacson¹; ¹UNC Dept of Radiology, Chapel Hill, NC; ²UNC, Chapel Hill, NC

Purpose: As prostatic artery embolization (PAE) becomes a more commonly performed procedure, it is important for interventional radiologists to understand and be able to communicate to patients which lower urinary tract symptoms (LUTS) most commonly contribute to the degradation of a patient's quality of life (QoL) and how PAE can improve these symptoms. We aimed to determine which LUTS, when improved after PAE, had the strongest contribution to improvement in QoL.

Materials: Review of the electronic medical record of all patients who underwent PAE at a single center between December 2014 and June 2016 yielded 40 patients who had baseline and 3-month International Prostate Symptom Scores (IPSSs) with individual LUTS scores as well as QoL scores. Using a multivariate regression analysis (R), the individual LUTS whose score improvements were most contributory to QoL improvement were identified.

Results: Baseline mean IPSS was 21.9 and at 3-months was 8.9. QoL scores were 4.5 and 1.7 at baseline and 3-months, respectively. Improvements of two LUTS were statistically significant when compared to QoL score improvement: weak stream (mean improvement = 2.8 $p < 0.001$) and sensation of incomplete emptying (mean improvement = 1.9 $p < 0.001$).

Conclusions: After PAE, improvement of weak urinary stream and sensation of incomplete emptying most contributed to improved QoL scores. This information is useful when counseling patients who are considering undergoing the procedure.