Prostate artery embolization may improve erectile function with no deleterious effect on ejaculation: a retrospective review of 53 patients
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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 nocturia and quality of life (QoL). Average change of 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.

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