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Introduction & Objectives: To compare the efficacy of tamsulosin hydrochloride and tadalafil for urinary and sexual dysfunction, we conducted randomized prospective study in patients with localized prostate cancer undergoing prostate brachytherapy.

Materials & Methods: Overall 43 localized prostate cancer patients were randomized into two groups of either those treated with daily use of 0.2mg of tamsulosin hydrochloride (N=22, Tam group) or those treated with daily use of 5mg of tadalafil (N=21, Tad group) just after brachytherapy. Sexual and erectile function status were assessed before brachytherapy (baseline), and 1, 3, 6 months postoperatively using International Index of Erectile Function-15 (IIEF-15) questionnaire and Erection Hardness Score (EHS). We also assessed urinary symptom using questionnaires of International Prostate Symptom Score (IPSS) and Over Active Bladder Symptom Score (OABSS) and evaluated urinary function status by maximum flow rate (Qmax) measured by uroflowmetry and residual urine volume (RUV).

Results: The mean±SD at baseline IPSS, OABSS, Qmax, RUV, total IIEF15 score, and EHS score were 7.3±6.2, 3.2±2.2, 17.1±6.4ml/s, 32.5±27.5ml, 28.2±23.5, and 1.7±1.5 in Tad group, and 8.4±6.4, 3.3±1.8, 17.0±6.3ml/s and 29.4±15.0ml, 20.1±18.3, and 1.7±1.7 in Tam group respectively, with no significant difference. Mean±SD of IPSS, OABSS, Qmax, RUV, total IIEF15 score, and EHS score 3 month after brachytherapy were 16.1±9.7, 6.6±3.8, 9.3±5.5ml/s, 45.2±47.4ml, 25.1±21.2, and 2.0±1.3 in Tad group, and 15.7±9.4, 5.3±3.4, 10.5±5.4ml/s, 42.9±35.1ml, 17.5±14.3, and 1.6±1.5 in Tam group respectively, with no significant difference. Mean±SD of total IIEF15 score 6 months after brachytherapy was 27.4±20.6 in Tad group, which was significantly higher than that in Tam group (17.0±12.1, p=0.049). Furthermore, mean±SD of erectile function subdomain score of IIEF15 was 10.7±9.8 in Tad group, which was significantly higher than that in Tam group (5.0±5.6, p=0.032). In both Tad and Tam group, 3 months after brachytherapy IPSS and OABSS were significantly higher and Qmax was significantly lower as compared to those at baseline.

Conclusions: These results indicate a global decrease in sexual, erectile, and urinary function status 3 months after prostate brachytherapy even using tamsulosin hydrochloride or tadalafil. Six months after prostate brachytherapy, erectile function might be restored by tadalafil treatment.