OBJECTIVES: To assess the predictors of acute urinary retention (AUR) and/or surgery related to benign prostatic hyperplasia (BPH) in 3514 men complaining of lower urinary tract symptoms and treated for 6 months with the selective alpha1-blocker alfuzosin at 10 mg once daily. METHODS: The impact of baseline (age, prior AUR, prostate-specific antigen tertiles, lower urinary tract symptoms severity, and bother score) and dynamic (International Prostate Symptom Score [IPSS] worsening of 4 points or greater and bother greater than 3 during treatment) variables on the risk of AUR/BPH-related surgery was assessed using Kaplan-Meier curves and log-rank tests. Associated hazard ratios (HRs) and 95% confidence intervals (CIs) were calculated using Cox proportional hazard models. RESULTS: Of the 3514 men analyzed, 140 (4%) experienced a first episode of conservatively managed AUR before inclusion. Of those 140 men, 5 (3.6%) had AUR relapse during alfuzosin treatment and 6 (4.3%) underwent BPH-related surgery. Of those 3374 men without prior AUR, 19 (0.6%) experienced AUR during treatment and 41 (1.2%) underwent BPH-related surgery. During treatment, the most important predictors of AUR were prior AUR (HR
6.35, 95% CI 2.31 to 17.40; P< 0.01), IPSS worsening of 4 or greater (HR 3.34, 95% CI 1.11 to 9.99; P = 0.03), and bother score greater than 3 (HR 3.29, 95% CI 1.29 to 8.53; P< 0.01) at endpoint. Other variables (age, PSA, baseline IPSS, and bother) had much less predictive value. Similar results were observed regarding the risk of AUR and/or BPH-related surgery. CONCLUSIONS: The results of this 6-month real life practice study suggest that prior AUR and symptom deterioration during treatment with alfuzosin 10 mg once-daily (IPSS worsening of 4 or more points, bother score greater than 3) were the strongest predictors of AUR and AUR/BPH-related surgery in men with lower urinary tract symptoms.