The relation between baseline PSA and symptomatic progression in Egyptian BPH patients receiving tamsulosin monotherapy: an exploratory multicentric prospective study

Background: To examine the relation of baseline serum prostatic-specific antigen (PSA) to symptomatic changes in men with benign prostatic hyperplasia (BPH) receiving tamsulosin through its relation to changes in international prostate symptom score (IPSS) and maximum urinary flow rate (Qmax) and the occurrence of acute urine retention (AUR).

Results: We conducted a multicentric prospective cohort study. BPH patients were included from May 2015 till January 2018. We collected IPSS recording, prostate volume (PV) Qmax. After 2 years of medical treatment with tamsulosin 0.4 mg once daily, full initial evaluation was repeated for all patients. Improvement in IPSS and Qmax was recorded and compared to initial PSA levels. Follow-up was aborted for patients who developed AUR. Moreover, the data of AUR patients were recorded and compared to initial PSA levels. The study included 437 Egyptian patients, and 414 patients (94.7%) had symptomatic improvement through the 2 years of follow-up on tamsulosin monotherapy. In total, 23 patients (5.3%) developed AUR during follow-up. There was a significant association between AUR and higher baseline PSA level ($p < 0.001$). On the other hand, statistical analysis showed that there was no significant correlation between baseline serum PSA and the improvement in IPSS ($r = -0.02$, $p = 0.684$) or Qmax ($r = -0.06$, $p = 0.267$). The multivariate analysis showed that baseline PSA and PV were independent predictors for AUR ($p < 0.001$ for both).

Conclusions: There was a significant relation between baseline PSA and incidence of AUR. However, there was no significant relationship between the serum PSA level and symptoms improvement in BPH