Evaluation of Tamsulosin Use in Female ICU Patients with Urinary Retention

Hannah Dykes, PharmD

Background:

Tamsulosin is an alpha-1 antagonist that can be used off-label for the treatment of urinary retention with the goal of decreasing the duration of urinary catheterization for risk reduction of urinary tract infections. Overall, data are limited with tamsulosin use for urinary retention in females. Tamsulosin has demonstrated reduced rates of urinary retention in female patients who have undergone elective surgical procedures. The purpose of this study is to determine if tamsulosin decreases duration of urinary catheterization in adult females admitted the intensive care unit (ICU) with multifactorial, new-onset urinary retention.

Objective:

Evaluation of the efficacy and safety of tamsulosin in female patients admitted to the ICU for treatment of urinary retention during hospitalization.

Methods:

This study was a retrospective, cohort analysis of adult ICU patients at a single-center, community teaching hospital from June 2019 to June 2021. Female patients with new-onset urinary retention were evaluated in two groups based on if they received tamsulosin or usual care. The primary endpoint was the duration of urinary catheterization during hospitalization between groups. Secondary endpoints included incidence of catheter-associated urinary tract infections (CAUTIs), feeding tube clogging with tamsulosin, and documented dizziness or hypotension with tamsulosin initiation. Presumed reason for urinary retention was also categorized.

Results:

There were 128 patients included in this study; 76 patients received tamsulosin and 52 patients received usual care. The duration of urinary catheterization was 13 days versus 9 days for the tamsulosin and usual care groups, respectively (p <0.01). Once tamsulosin was initiated, the duration of catheterization was 7 days. There was no difference in the rates of CAUTIs between groups. Hypotension (17.1%) and dizziness (7.9%) were noted with tamsulosin. ICU and total hospital lengths of stay were significantly longer in the tamsulosin group. When a subgroup analysis was performed in patients with medications as the presumed reason for urinary retention, the duration of urinary catheterization as well as hospital and ICU lengths of stay were significantly longer in patients who received tamsulosin. However, no differences were seen in patients with multiple reasons for urinary retention.

Conclusion:

Tamsulosin was associated with a longer duration of urinary catheterization when compared to usual care. Many limitations existed in this retrospective, single center study, such as unmatched groups, small sample size, non-protocolized urinary management of urinary retention, and inclusion of both COVID-19 and non-COVID-19 patients. Larger prospective trials are needed for further assessment.