CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER: 21287s016

STATISTICAL REVIEW(S)



U.S. Department of Health and Human Services Food and Drug Administration Center for Drug Evaluation and Research Office of Translational Sciences Office of Biostatistics

STATISTICAL REVIEW AND EVALUATION

CLINICAL STUDIES

NDA/Serial Number: 21-287/N0015

Drug Name: Uroxatral (Alfuzosin HCL)

Indication(s): Treatment of pediatric patients aged 2 to 16 years with elevated leak

point pressure associated with a known neurological disorder

Applicant: Sanofi Aventis US LLC

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1. EXECUTIVE SUMMARY

1.1 Conclusions and Recommendations

From a statistical perspective, the data from a study conducted under a Pediatric Written Request do not support either the 0.1 mg/kg/day or 0.2 mg/kg/day alfuzosin dose for the treatment of pediatric patients aged 2 to 16 years with elevated leak point pressure (LPP) associated with a known neurological disorder based on the proportion of patients with detrusor LLP < 40 cm H_2O . Descriptively, the proportion of patients with detrusor LLP < 40 cm H_2O was 48.3% in the 0.2 mg/kg/day alfuzosin group, 40.4% in the 0.1 mg/kg/day alfuzosin group, and 40.4% in the placebo group.

1.2 Brief Overview of Clinical Studies

The sponsor, Sanofi-Aventis US LLC, completed the three studies listed in the Pediatric Written Request dated 02/21/2006 and submitted all related data in support of alfuzosin for the treatment of pediatric patients aged 2 to 16 years with elevated leak point pressure associated with a known neurological disorder. Alfuzosin was approved for the treatment of the signs and symptoms of benign prostatic hyperplasia in adults on 06/12/2003.

Two of the three studies were exploratory and the third study was pivotal. The focus of this review is Study EFC5722, a randomized, double-blind, placebo-controlled, multicenter (49 sites), multinational (15 countries), parallel-group trial conducted in 172 pediatric patients over 12 weeks. Patients were equally randomized to one of three treatment groups: placebo, 0.1 mg/kg/day alfuzosin, and 0.2 mg/kg/day alfuzosin.

The primary objective of Study EFC5722 was to evaluate the efficacy of two alfuzosin doses compared to placebo based on detrusor leak point pressure (LPP) of neuropathic etiology in pediatric patients aged 2-16 with an elevated detrusor LPP and detrusor LPP \geq 40 cm H₂O. The primary efficacy variable was the proportion of patients with detrusor LPP \leq 40 cm H₂O.

1.3 Statistical Issues and Findings

There were no statistical issues in the efficacy evaluation. There was an unexpectedly high placebo response rate seen in this study. The proportion of pediatric patients with detrusor LPP < 40 cm H_2O in the placebo group at Week 12 was 40.4%, greater than the assumed proportion of 10% used for sample size calculation. For comparison, the proportions in both alfuzosin doses are close to the assumed proportion of 50%.

Neither the 0.1 mg/kg/day nor the 0.2 mg/kg/day alfuzosin dose demonstrated efficacy for the treatment of pediatric patients aged 2 to 16 years with elevated leak point pressure (LPP) associated with a known neurological disorder based on the proportion of patients with detrusor LLP < 40 cm H_2O . Descriptively, the proportion of patients with detrusor LLP < 40 cm H_2O was 48.3% in the 0.2 mg/kg/day alfuzosin group, 40.4% in the 0.1 mg/kg/day alfuzosin group, and 40.4% in the placebo group.

2. INTRODUCTION

2.1 Overview

The applicant, Sanofi-Aventis US LLC, submitted information from three studies conducted under a Pediatric Written Request in support of alfuzosin for the treatment of pediatric patients aged 2 to 16 years with elevated leak point pressure associated with a known neurological disorder. Two of the three pediatric studies were open-label and exploratory and one, Study EFC5722, was pivotal. Study EFC5722 was a 12-week, double-blind, randomized, placebo-controlled, parallel-group, multicenter, multinational, efficacy, pharmacodynamic and safety study of two doses of alfuzosin in pediatric patients, age 2-16 years, with elevated detrusor leak point pressure (\geq 40 cm H₂O) of neurologic origin. A brief summary of Study EFC5722 is presented in Table 2.1 below and is the focus of this review.

| Table 2.1 | | | | | | | | |
|----------------------------------|---------------------------|---------------------|-----------------------------|-------------------|--|--|--|--|
| Summary of Pivotal Study EFC5722 | | | | | | | | |
| Study | Study Country | Study Design | Number Randomized by | Duration of | | | | |
| | (No. of Centers) | | Treatment Group | Treatment | | | | |
| Study EFC5722 | Canada (1), Estonia (1), | | | | | | | |
| | France (3), Germany (2), | Randomized, | | 12-week treatment | | | | |
| | India (4), Malaysia (1), | Double-blind, | Placebo: 57 | phase followed by | | | | |
| | Poland (6), Portugal (3), | Placebo-controlled, | Alfuzosin 0.1 mg/kg/day: 57 | a 40-week safety | | | | |
| | Russia (5), | Multicenter, | Alfuzosin 0.2 mg/kg/day: 58 | extension phase | | | | |
| | Serbia & Montenegro (3), | Multinational | | | | | | |
| | Slovakia (2), Spain (5), | | | | | | | |
| | Taiwan (2), Turkey (4), | | | | | | | |
| | US (7) | | | | | | | |
| Source: Reviewer | r's listing | _ | | _ | | | | |

2.2 Data Sources

The study report and additional information were submitted electronically. The data quality was limits. The analysis datasets and associated definition files are listed in Table 2.2.

| Table 2.2 Study EFC5722: Data Sources | | | | | |
|--|------------|--|--|--|--|
| Study | File | Location | | | |
| Study EFC5722 | Datasets | \\CDSESUB1\EVSPROD\NDA021287\0015\m5\datasets\efc5722\analysis\ | | | |
| Study EFC3722 | Definition | \\CDSESUB1\EVSPROD\\NDA021287\\0015\\m5\\datasets\\efc5722\\analysis\\define.pdf | | | |

2.3 Indication

Alfuzosin is indicated for the treatment of pediatric patients aged 2 to 16 years with elevated leak point pressure associated with a known neurological disorder.

3. STATISTICAL EVALUATION

3.1 Overview of Study EFC5722

3.1.1 Design and Objectives

Design: Study EFC5722 was a randomized, double-blind, placebo-controlled, parallel-group, multicenter, multinational trial. It was conducted in 49 sites across 15 countries (see Table 2.1). The objective of this study was to establish the efficacy of two alfuzosin doses compared to placebo for reducing the detrusor leak point pressure (LPP) in children and adolescents aged 2-16 with elevated detrusor LPP of neuropathic etiology and detrusor LPP \geq 40 cm H₂O.

Approximately 150 patients were planned to be randomized in a 2:1:2:1 ratio to one of four treatment groups:

- o oral 0.1 mg/kg/day alfuzosin
- o matching placebo for 0.1 mg/kg/day alfuzosin
- o oral 0.2 mg/kg/day alfuzosin
- o matching placebo for 0.2 mg/kg/day alfuzosin

This resulted in 50 subjects per treatment when both placebo groups are combined.

Randomization was centrally controlled via an interactive voice response system and was stratified by three factors: age (2-7 and 8-16 years of age), pre-existing usage of anticholinergic and/or antimuscarinic drugs, and formulation (tablet or oral solution). Following randomization, children aged 2-7 received alfuzosin oral solution TID close to their three mealtimes (breakfast, lunch, and dinner) and children aged 8-16 received alfuzosin tablets BID approximately every 12 hours. There was a 12-week double-blind efficacy phase followed by a 40-week open-label safety extension phase with a 1 week follow-up at the end of each of the two study phases.

Primary Efficacy Endpoints: The primary efficacy endpoint was the proportion of patients with detrusor LPP < 40 cm H₂O (response) at Week 12.

Secondary Efficacy Endpoints: There were five secondary efficacy endpoints:

- the absolute change in detrusor LPP at Week 12
- the relative change in detrusor LPP at Week 12
- the relative change in detrusor compliance at Week 12
- average monthly number of urinary tract infection (UTI) episodes during the treatment period
- analyses of patients whose post-treatment LPP < 40 cm H_2O with a baseline LPP between 41-45 cm H_2O

Labeling claims are not being sought for these secondary efficacy endpoints.

Determination of Sample Size: The assumptions for sample size calculation were:

- 50% of patients in the alfuzosin group would have a detrusor LPP \leq 40 cm H₂O at Week 12
- 10% of patients in the placebo group would have a detrusor LPP < 40 cm H_2O at Week 12
- 15% rate of missing LPP data at Week 12

A total of 150 patients (50 patients per treatment group) would provide approximately 95% power to detect a 40% difference in response rate between each alfuzosin dose and placebo at an alpha level of 0.025.

Definition of Analysis Sets (Population): The intent-to-treat (ITT) population was the primary efficacy population. The ITT population included all randomized patients who had at least one post-baseline value and an appropriate baseline value.

The per-protocol (PP) population included all ITT patients with no major efficacy-related protocol deviations. The PP population analysis was performed only if at least 5% of the ITT population was excluded in the PP population. The safety population included all randomized patients who were exposed to the study medication.

Handling of Missing Data: For the primary analysis, patients without post-baseline LPP assessment were considered treatment failures.

Statistical Methods: For LPP assessment, the proportions of patients with LPP < 40 cm H_2O in both doses of alfuzosin were compared to that in the placebo group using Fisher's exact test. The overall type-1 error is controlled at 0.05 using the Hochberg procedure to adjust for multiple comparisons to placebo.

For the secondary analyses, an ANCOVA model was used for the absolute and relative changes in detrusor LPP from baseline. The ANCOVA model included the centered baseline detrusor LPP as covariate and fixed effect of treatment, age/formulation group and previous anticholinergic/antimuscarinic use (Y/N). If the normality assumption was not met, a ranked ANCOVA would be performed.

3.2 Results: Study EFC5722

3.2.1 Subject Disposition

Table 3.2.1 presents the subject disposition. A total of 172 subjects were randomized at 49 sites across 15 countries. All sites recruited less than 20 subjects with 13 sites recruiting 1 subject and 4 sites recruiting at least 10 subjects. Overall, 2.9% of subjects discontinued the study, mostly due to adverse events (2.3%). The discontinuation rates were similar across the three treatment groups. The ITT population of 172 subjects is greater than the planned 150 subjects.

| Table 3.2.1 Study EFC5722: Disposition of Subjects During Double-blind Period | | | | | | | |
|---|------------|-------------|-------------|-------------|--|--|--|
| | Placebo | | mg/kg/day) | Total | | | |
| Category | N=57 | 0.1 N=57 | 0.2 N=58 | N=172 | | | |
| Randomized (ITT) | 57 (100%) | 57 (100%) | 58 (100%) | 172 (100%) | | | |
| Completed Treatment Period | 56 (98.2%) | 55 (96.5%) | 56 (96.6%) | 167 (97.1%) | | | |
| Continued in Open Label Period | 54 (94.7%) | 54 (94.7%) | 55 (94.8%) | 163 (94.8%) | | | |
| Completed both Periods | | | | | | | |
| Discontinued Treatment Period | | | | | | | |
| Adverse Event | 1 (1.8%) | 1 (1.8%) | 2 (3.4%) | 4 (2.3%) | | | |
| Lack of Efficacy | 0 | 0 | 0 | 0 | | | |
| Lost to follow-up | 0 | 0 | 0 | 0 | | | |
| Poor Compliance to Protocol | 0 | 0 | 0 | 0 | | | |
| Other Reason | 0 | 1 (1.8%)* | 0 | 1 (0.6%) | | | |
| ITT Population | 57 | 57 | 58 | 172 | | | |
| Per Protocol Population | 50 | 49 | 50 | 149 | | | |
| Safety population | 57 | 57 | 58 | 172 | | | |

3.2.2 Patient Demographics and Baseline Characteristics

The patient demographic characteristics are presented in Table 3.2.2. Patients were similar among the three treatment groups in terms of age, body mess index (BMI) and sex. However, for race, there were more Asian patients in each of the two alfuzosin groups compared to placebo. This imbalance was investigated further in the geographic region subgroup analysis.

| Table 3.2.2 Study EFC5722: Subject Demographic Summary (ITT Population) | | | | | | | |
|---|-------------|-----------------------|-----------------------|-------------|--|--|--|
| | Placebo | Alfu | zosin | Total | | | |
| | N=57 | 0.1 mg/kg/day N=57 | 0.2 mg/kg/day N=58 | N=172 | | | |
| Age (SD) | 8.3 (4.38) | 7.9 (3.91) | 8.7 (3.87) | 8.3 (4.05) | | | |
| Body Mass Index (SD) | 18.0 (4.58) | 18.7 (5.95) | 18.8 (4.66) | 18.5 (5.09) | | | |
| Sex: | | | | | | | |
| Female | 28 | 27 | 30 | 85 | | | |
| Male | 29 | 30 | 28 | 87 | | | |
| Race [N (%)] | | | | | | | |
| Caucasian | 49 (86.0%) | 44 (77.2%) | 44 (75.9%) | 137 (79.7%) | | | |
| African American | 1 (1.8%) | 1 (1.8%) | 3 (5.2%) | 5 (2.9%) | | | |
| Asian | 5 (8.8%) | 11 (19.3%) | 10 (17.2%) | 26 (15.1%) | | | |
| Other | 2 (3.5%) | 1 (1.8%) | 1 (1.7%) | 4 (2.3%) | | | |

3.2.3 Primary Efficacy

Table 3.2.3 presents the primary efficacy results. I concur with the sponsor's results. Neither of the two alfuzosin doses demonstrated a statistically greater proportion of patients with a detrusor LPP < $40~\rm cm~H_2O$ at Week 12 compared to placebo. The proportion in each group is as follows: 40.4% in the placebo group, 40.4% in the $0.1~\rm mg/kg/day$ alfuzosin group, and 48.3% in the $0.2~\rm mg/kg/day$ alfuzosin group.

| $Table \ 3.2.3$ Study ECF5722: Proportion of Patients with Detrusor Leak Point Pressure (LPP) < 40 cm H ₂ O (ITT Population) | | | | | | | |
|---|----|------------------------------------|-----------------------------------|----------|--|--|--|
| Treatment Group | N | LPP < 40 cm H ₂ O % (n) | Treatment Difference % (95% C.I.) | p-value* | | | |
| Alfuzosin 0.1 mg/kg/day | 57 | 40.4 (23) | 0 (-17.48, 17.48) | 1.00 | | | |
| Alfuzosin 0.2 mg/kg/day | 58 | 48.3 (28) | 7.9 (-9.97, 25.11) | 0.91 | | | |
| Placebo | 57 | 40.4 (23) | | | | | |
| Source: Reviewer's analysis * Nominal p-value | | | | | | | |

3.3.4 Secondary Efficacy

The absolute change and relative change in LPP from baseline to Week 12 were not significantly reduced in both alfuzosin groups compared to placebo (see Tables A.1 and A.2 in the Appendix). These two secondary efficacy results support the findings from the primary efficacy analysis.

There was no significant benefit found in either of the other secondary endpoints of absolute and relative detrusor compliance at Week 12 and the number of UTI episodes during the treatment period (not shown).

3.3.6 Reviewer's Comments on the Efficacy Results

The two doses of alfuzosin did not demonstrate a statistically significant benefit compared to placebo in the treatment of pediatric patients aged 2 to 16 years with elevated leak point pressure associated with a known neurological disorder. The proportion of patients with detrusor LPP < 40 cm H_2O after 12 weeks of treatment is: 40.4% in the placebo group, 40.4% in the 0.1mg/kg/day group, and 48.3% in the 0.2 mg/kg/day alfuzosin group.

The negative study results may be due to the actual study power being lower than the protocol planned 95% because the placebo effect was larger (40.4%) than what was assumed (10%) for sample size calculation.

Also, the distribution of the change from baseline LPP values did not suggest that a single site influenced efficacy (see Figure A.1 in the Appendix).

3.4 Evaluation of Safety

See the Medical Officer's review for an evaluation of safety.

4. FINDINGS IN SPECIAL/SUBGROUP POPULATIONS

4.1 Age, Gender Region, Formulation, and Anticholinergic/Antimuscarinic Agent Usage

Subgroup analyses by age, race, geographic region, formulation, and pre-existing anticholinergic/antimuscarinic usage for the primary efficacy endpoint, LPP < 40 cm H₂O at Week 12, were requested by the clinical reviewer and are briefly presented in this section. I concur with the sponsor's results. The results tables can be found in the Appendix.

There was no significant difference in the proportion of patients with LPP < 40 cm H₂O in either of the two alfuzosin dose groups compared to placebo for each of the following subgroups:

- Age groups of 2-7 years and 8-16 years (Table A.3)
- Gender groups of male and female (Table A.4)
- Geographic regions of Asia, Eastern Europe, Western Europe and North America (Table A.5)
- Formulation groups of solution and tablet (Table A.6)
- Pre-existing anticholinergic/antimuscarinic usage groups of user and non-user (Table A.7)

Although there was no significant difference in the proportion of patients with LPP < 40 cm H_2O in either of the two alfuzosin dose groups compared to placebo within the female subgroup analysis, there was a trend in dose effect with proportions of 51.9% and 63.3% in the lower and higher alfuzosin doses, respectively, compared to 39.3% in placebo (Table A.4).

4.3 Reviewer comments on subgroup analysis

We performed exploratory analyses for the subgroups of age, gender, region, formulation and anticholinergic/antimuscarinic usage. Due to small subgroup sizes, the results of these analyses do not demonstrate significant differences in any subgroup for each of the two alfuzosin doses compared to placebo.

5. SUMMARY AND CONCLUSIONS

5.1 Statistical Issues and Collective Evidence

There were no statistical issues in the efficacy evaluation. There was an unexpectedly high placebo response rate seen in this study. The proportion of pediatric patients with detrusor LPP < 40 cm H_2O in the placebo group at Week 12 was 40.4%, greater than the assumed proportion of 10% used for sample size calculation. For comparison, the proportions in both alfuzosin doses are close to the assumed proportion of 50%.

Neither the 0.1 mg/kg/day nor the 0.2 mg/kg/day alfuzosin dose demonstrated efficacy for the treatment of pediatric patients aged 2 to 16 years with elevated leak point pressure (LPP) associated with a known neurological disorder based on the proportion of patients with detrusor LLP < 40 cm H_2O . Descriptively, the proportion of patients with detrusor LLP < 40 cm H_2O was 48.3% in the 0.2 mg/kg/day alfuzosin group, 40.4% in the 0.1 mg/kg/day alfuzosin group, and 40.4% in the placebo group.

5.2 Conclusions and Recommendations

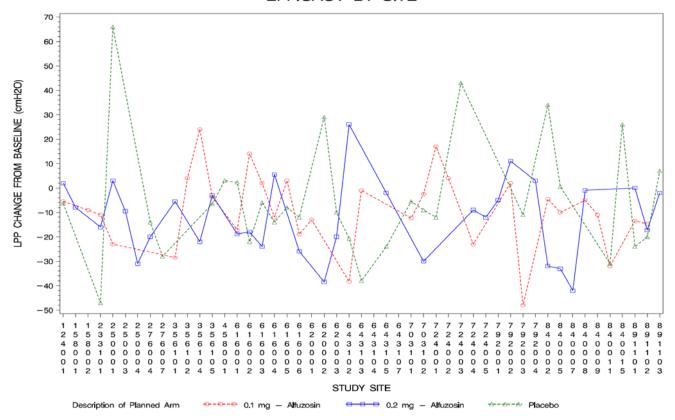
From a statistical perspective, the data from a study conducted under a Pediatric Written Request do not support either the 0.1~mg/kg/day or 0.2~mg/kg/day alfuzosin dose for the treatment of pediatric patients aged 2 to 16 years with elevated leak point pressure (LPP) associated with a known neurological disorder based on the proportion of patients with detrusor LLP < 40 cm H₂O. Descriptively, the proportion of patients with detrusor LLP < 40 cm H₂O was 48.3% in the 0.2 mg/kg/day alfuzosin group, 40.4% in the 0.1 mg/kg/day alfuzosin group, and 40.4% in the placebo group.

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Appendix: Figures and Tables

Figure A.1: Mean Change from Baseline LPP by Study Site

EFFICACY BY SITE



| Table A.1 Absolute Change in LPP from Baseline to Week 12 (ITT Population) | | | | | | | |
|--|----|------------------------------|---------------------------------|----------|--|--|--|
| Treatment Group | N | LPP (cm H ₂ O) | Treatment Difference (95% C.I.) | p-value* | | | |
| Alfuzosin 0.1 mg/kg/day | 57 | -11.6 | -6.2 (-13.7, 1.31) | 0.105 | | | |
| Alfuzosin 0.2 mg/kg/day | 58 | -12.5 | -7.0 (-14.5, 0.4) | 0.064 | | | |
| Placebo | 57 | -5.4 | | | | | |

Source: Reviewer's analysis

^{*} Nominal p-value based on an ANCOVA model with fixed effect of treatment, age, formulation, anticholinergic/antimuscarinic use and baseline as covariate.

| Table A.2 Relative Change of LPP from Baseline to Week 12 (ITT Population) | | | | | | | |
|--|----|------------|---------------------------------|----------|--|--|--|
| Treatment Group | N | LPP (%) | Treatment Difference (95% C.I.) | p-value* | | | |
| Alfuzosin 0.1 mg/kg/day | 57 | -20.6% | -11.4% (-26.3%, 3.5%) | 0.132 | | | |
| Alfuzosin 0.2 mg/kg/day | 58 | -23.5% | -14.3% (-29.1%, 0.5%) | 0.059 | | | |
| Placebo | 57 | -9.2 | | | | | |

Source: Reviewer's analysis

^{*} Nominal p-value based on an ANCOVA model with fixed effect of treatment, age, formulation, anticholinergic/antimuscarinic use and baseline as covariate.

| $Table A.3 \\ Study ECF5722: Age Subgroup Analysis for Primary Efficacy Endpoint of \\ Proportion of Patients with Detrusor Leak Point Pressure (LPP) < 40 cm H_2O \\ (ITT Population)$ | | | | | | | | | |
|---|-------------------------|----|-----------|--------------------|------|--|--|--|--|
| $\begin{tabular}{lllllllllllllllllllllllllllllllllll$ | | | | | | | | | |
| 2 – 7 Years | Alfuzosin 0.1 mg/kg/day | 28 | 53.6 (15) | 21.4 (-4.2, 43.5) | 0.11 | | | | |
| | Alfuzosin 0.2 mg/kg/day | 28 | 46.4 (13) | 14.3 (-10.8, 37.0) | 0.27 | | | | |
| | Placebo | 28 | 32.1 (9) | | | | | | |
| 8 - 16 Years | Alfuzosin 0.1 mg/kg/day | 29 | 27.6 (8) | -20.7 (-42.3, 4.1) | 0.10 | | | | |
| | Alfuzosin 0.2 mg/kg/day | 30 | 50.0 (15) | 1.7 (-22.4, 25.6) | 0.90 | | | | |
| | Placebo | 29 | 48.3 (14) | | | | | | |

Source: Reviewer's analysis

* Nominal p-value

Table A.4 Study ECF5722: Gender Subgroup Analysis for Primary Efficacy Endpoint of Proportion of Patients with Detrusor Leak Point Pressure (LPP) < 40 cm H₂O (ITT Population) **Treatment** LPP < 40 cm H₂O **Treatment Difference** Gender p-value* % (95% C.I.) Group % (n) 12.6% (-13.0%, 36.0%) Female Alfuzosin 0.1 mg/kg/day 27 51.9 (14) 0.350 Alfuzosin 0.2 mg/kg/day 30 24.5% (-1.5%, 45.6%) 0.067 63.3 (19) Placebo 28 39.3 (11) Male Alfuzosin 0.1 mg/kg/day 30 30.0 (9) -11.4% (-33.7%, 12.5%) 0.361 Alfuzosin 0.2 mg/kg/day 28 32.1 (9) -9.2% (-32.1%, 15.1%) 0.47029 Placebo 41.4 (12) Source: Reviewer's analysis

* Nominal p-value

Table A.5 Study ECF5722: Region Subgroup Analysis for Primary Efficacy Endpoint of Proportion of Patients with Detrusor Leak Point Pressure (LPP) < 40 cm H₂O (ITT Population)

| Region Group | Treatment | N | LPP < 40 cm H ₂ O % (n) | Treatment Difference % (95% C.I.) | p-value* |
|--------------------------------|-------------------------|----|---------------------------------------|-----------------------------------|--------------------|
| Asia | Alfuzosin 0.1 mg/kg/day | 10 | 30.0 (3) | 10.0% (-36.6%, 44.5%) | 1.000 ^a |
| | Alfuzosin 0.2 mg/kg/day | 10 | 20.0 (2) | 0.0% (-44.8%, 35.0%) | 1.000 ^a |
| | Placebo | 5 | 20.0(1) | | |
| Eastern | Alfuzosin 0.1 mg/kg/day | 33 | 48.5 (16) | 2.8% (-19.9%, 25.1%) | 0.819 |
| Europe | Alfuzosin 0.2 mg/kg/day | 30 | 46.7 (14) | 1.0% (-22.1%, 23.9%) | 0.939 |
| | Placebo | 35 | 45.7 (16) | | |
| Western | Alfuzosin 0.1 mg/kg/day | 14 | 28.6 (4) | -6.7% (-35.6%, 25.0%) | 0.690 |
| Europe and North America | Alfuzosin 0.2 mg/kg/day | 18 | 66.7 (12) | 31.3% (-1.4%, 56.2%) | 0.063 |
| | Placebo | 17 | 35.3 (6) | | |

* Nominal p-value

a: from Fisher Exact Test

 $Table~A.6\\ Study~ECF5722:~Formulation~Subgroup~Analysis~for~Primary~Efficacy~Endpoint~of~Proportion~of~Patients~with~Detrusor~Leak~Point~Pressure~(LPP) < 40~cm~H_2O~(ITT~Population)$

| Formulation Group | Treatment | N | LPP < 40 cm H ₂ O % (n) | Treatment Difference % (95% C.I.) | p-value* |
|----------------------|-------------------------|----|---------------------------------------|-----------------------------------|----------|
| Solution | Alfuzosin 0.1 mg/kg/day | 38 | 44.7 (17) | 8.6% (-0.13.3%, 8.6%) | 0.450 |
| | Alfuzosin 0.2 mg/kg/day | 37 | 48.7 (18) | 12.5% (-9.8%, 33.1%) | 0.279 |
| | Placebo | 36 | 36.1 (13) | | |
| Tablet | Alfuzosin 0.1 mg/kg/day | 19 | 31.6 (6) | -16.0% (-41.8%, 13.5%) | 0.301 |
| | Alfuzosin 0.2 mg/kg/day | 21 | 47.6 (10) | 0.0% (-27.8%, 27.8%) | 1.000 |
| | Placebo | 21 | 47.6 (10) | | |

* Nominal p-value

 $Table \ A.7$ Study ECF5722: Anticholinergic/Antimuscarinic Subgroup Analysis for Primary Efficacy Endpoint of Proportion of Patients with Detrusor Leak Point Pressure (LPP) < 40 cm H_2O (ITT Population)

| Anticholinergic/ antimuscarinic | Treatment | N | LPP < 40 cm H ₂ O % (n) | Treatment Difference % (95% C.I.) | p-value* |
|------------------------------------|-------------------------|----|---------------------------------------|-----------------------------------|----------|
| User | Alfuzosin 0.1 mg/kg/day | 31 | 41.9 (13) | 2.6% (-21.3%, 26.0%) | 0.836 |
| | Alfuzosin 0.2 mg/kg/day | 32 | 53.1 (17) | 13.8% (-10.9%, 36.3%) | 0.284 |
| | Placebo | 28 | 39.3 (11) | | |
| Non User | Alfuzosin 0.1 mg/kg/day | 26 | 38.5 (10) | -2.9% (-26.9%, 21.8%) | 0.826 |
| | Alfuzosin 0.2 mg/kg/day | 26 | 42.3 (11) | 0.9% (-23.6, 25.5%) | 0.944 |
| | Placebo | 29 | 41.4 (12) | | |

* Nominal p-value

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/s/

XIN FANG 11/26/2010

SONIA CASTILLO 11/26/2010 Signing off for Mahboob Sobhan

Reference ID: 2869112