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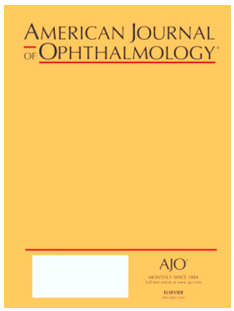

Eye Drop Dispenser Type and Medication Possession Ratio in Patients with Glaucoma: Single-use Containers versus Multiple-use Bottles

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Abstract

Purpose: To determine whether the consumption of topical glaucoma medication is influenced by the type of eye drop dispenser

Design: Retrospective cohort study

Methods: We examined 366 patients with open-angle glaucoma or ocular hypertension who were bilaterally treated with 0.0015% tafluprost or 2% dorzolamide/0.5% timolol fixed combination (DTFC). The patients were grouped by the type of dispenser and content of eye drops used: 1) tafluprost in bottles (T-Bottle group); 2) tafluprost in unit-dose pipettes (T-Unit group); 3) DTFC in bottles (C-Bottle group); and 4) DTFC in unit-dose pipettes (C-Unit group). We evaluated the medication possession ratio (MPR) among groups, and factors associated with over-consumption (MPR > 1.2) or under-consumption (MPR < 0.8) in multinomial logistic regression.

Results: The mean MPR was 1.49 (range, 0.69–2.91) in the T-Bottle group, 0.91 (range, 0.32–1.27) in the T-Unit group, 1.25 (range, 0.51–2.60) in the C-Bottle group, and 0.96 (range, 0.36–1.60) in the C-Unit group. The Bottle groups demonstrated higher mean values and wider ranges of MPR compared to the Unit groups. The MPR interval at which the largest number of patients were found was 1.0–1.4 in the Bottle groups and 0.8–1.2 in the Unit groups. Bottle-type dispenser (odds ratio [OR] 64.02), tafluprost medication (OR 2.84), and older age (OR 1.03) were associated with over-consumption, whereas no factor was correlated with under-consumption.

Conclusions: The type of eye drop dispenser affects the consumption of glaucoma medication. Physicians should consider the type of eye drop dispenser when assessing glaucoma medication adherence.