Killing two birds with one stone: the potential effect of cataract surgery on the incidence of primary angle-closure glaucoma in a high-risk population

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ABSTRACT

Background: To estimate the proportion of cataract surgery performed at various visual acuity and lens opacity thresholds that would coincidentally treat early angle-closure disease, and to estimate the effect of this surgery on the incidence of primary angle-closure glaucoma.

Design: Cross-sectional, population-based survey in Meiktila, Myanmar.

Participants: Total of 2076 inhabitants, 40 years of age and over were included.

Methods: Eyes with cataract-induced visual impairment, and primary angle-closure disease were identified. Analyses were stratified by various pinhole-corrected visual acuity and Lens Opacity Classification System III scores thresholds.

Main Outcome Measures: The dual role of cataract surgery in primary cataract treatment and primary angle-closure glaucoma prevention was estimated.

Results: Of 4153 eyes available for analysis, 261 eyes were either primary angle-closure suspect or primary angle closure; 975 eyes had a visual acuity of <6/18 and Lens Opacity Classification System III score ≥3 on the nuclear or cortical scales. Of these, 86 eyes had either primary angle-closure suspect or primary angle closure. If cataract surgery were performed on all 975 eyes, this would potentially prevent up to 86 cases of primary angle-closure glaucoma in this population; 8.82% (95% confidence interval 7.12–10.78%) of the cataract surgery would address the cataract and prevent primary angle-closure glaucoma. This would achieve a 38.46% (95% confidence interval 20.23–59.43%) relative reduction in the incidence of primary angle-closure glaucoma in the adult population.

Conclusion: In populations with a high prevalence of both visually significant cataract and angle-closure disease, quality cataract extraction can serve a dual role of visual restoration and reducing the incidence of angle-closure disease in the population: killing two birds with one stone.

Key words: angle-closure glaucoma, blindness prevention, cataract surgery, Myanmar.

INTRODUCTION

Cataract and glaucoma are the leading causes of blindness in the world.1 Angle-closure glaucoma