How Does Cataract Surgery Rate Affect Angle-closure Prevalence

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Glaucoma is the leading cause of irreversible blindness worldwide, and the number of people diagnosed with glaucoma is estimated to reach 76 million by 2020 and 111.8 million by 2040.1 Although primary open-angle glaucoma is the most common subtype of glaucoma, primary angle-closure glaucoma (PACG), which accounts for 25% of all glaucoma globally, is more likely to result in irreversible visual impairment if not properly treated.2 The prevalence of primary angle-closure (PAC) varies by race. Previous studies suggest that 76.7% of individuals with PACG reside in Asia, among which half of them were Chinese.3,4 And according to previous reports, 3.1 million Chinese people are blind in at least one eye from PACG.1,2

Many studies have indicated that eyes with PAC share similar ocular characteristics.5–11 Shallow anterior chamber depth (ACD) and lens factors are regarded as cardinal risk factors for angle closure.6 It is believed that shallow ACD is due to increased lens thickness (LT) and forward positioning of the lens which can cause potential pupillary block and angle crowding.12–14 Considering the lens plays an important role in the development of PAC, lens extraction with intraocular lens (IOL) implantation, has been considered an alternative treatment for PACG with many studies reporting positive results.15–19

Surgery is the most effective treatment for visually significant cataract, and the number of people requiring cataract surgery worldwide is expected to reach 70.5 million by 2020.20 Globally, cataract surgery rates (CSR) have increased over recent decades.21,22 In China, there are ~30 million people with visually significant cataract and this number will continue to rise in line with the aging population.23 Significant efforts have been made to increase the CSR in China, with rates increasing from 480 cases per million in 2004 to 2205 in 2017.24,25 With the increasing rates of cataract surgery, one would expect a commensurate reduction in the prevalence of PACG. Studies from Scotland and Taiwan supported the hypothesis that increased CSR would reduce the occurrence of PACG.26–28 However, no studies have been performed to evaluate the potential impact of CSR on PACG, especially in a Chinese population where there is a low CSR but a large number of cataract and glaucoma patients. Therefore, we investigated the effect of increased CSR on the prevalence of occludable angles (OA) using a simulation study based on data from the Liwan Eye Study.

METHODS

Ethical approval was obtained by the institutional review board of Zhongshan Ophthalmic Center of Sun Yat-sen University, and approval was granted by the Research Governance Committee of Moorfields Eye Hospital and the Liwan District government. Written informed consent was obtained from all participants and the study adhered to the tenets of the Declaration of Helsinki.

Received for publication July 14, 2020; accepted September 20, 2020. From the *State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, People’s Republic of China; and †Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital, Melbourne, Vic., Australia. G.J. and L.W. contributed equally. Supported by the National Key R&D Program of China (2018YFC0116500), the Fundamental Research Funds of the State Key Laboratory of Ophthalmology, National Natural Science Foundation of China (81420108008, 81900841), and Science and Technology Planning Project of Guangdong Province, China (2013B20400003). Disclosure: The authors declare no conflict of interest. Reprints: Mingguang He, MD, PhD, State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Guangzhou 510060, People’s Republic of China (e-mail: mingguang_he@yahoo.com). Supplemental Digital Content is available for this article. Direct URL citations appear in the printed text and are provided in the HTML and PDF versions of this article on the journal’s website, www.glaucomajournal.com. Copyright © 2020 Wolters Kluwer Health, Inc. All rights reserved. DOI: 10.1097/IJG.0000000000001691

ORIGINAL STUDY
Details of field examinations have been described in detail elsewhere.29 In brief, 1864 participants aged 50 years and older were recruited from the Liwan District, Guangzhou, China using a cluster random sampling technique. Among these, 1405 took part in the study, and all examinations were carried out between September 2003 to February 2004.

Gonioscopy was performed using a Goldmann-type, one-mirror lens (Haag Streit Diagnostics, Bern, Switzerland) to observe the structures of the anterior chamber angle before other ocular examinations were performed. Gonioscopy was performed using a narrow beam 1 mm in length by an experienced ophthalmologist (M.H.) at ×25 magnification.

Gonioscopy examination was completed on all participants. Dynamic gonioscopy examination of the 4 quadrants was performed after static gonioscopy.

OA, which is synonymous with narrow-angle and suspect PAC, was defined as anterior angles with less than 90 degrees of the posterior trabecular meshwork visible during static gonioscopy.30,31 LT and ACD were measured with A-scan ultrasonography (Echocan US1800; Nidek Corp.). LT was defined as the distance from the vertex positions of the anterior to posterior surfaces of the crystalline lens or IOL. ACD was defined as the distance from the anterior corneal surface to the anterior lens capsulr or anterior surface of IOL. We found that increase in CSR resulted in a decrease of the mean LT and an increase in the mean ACD which may reduce the prevalence of OA. Ten individual measurements for each parameter were taken and outlier values were deleted. The measurements were repeated when the SD was > 0.13 mm. All ocular parameters are presented for the right eye only.

In the current study, we recruited 1280 subjects aged older than 50 years, among which 390 were 70 years and older, from a total sample population of 12,563 of all ages living in Liwan District, Guangzhou, China. All these 1280 elderly participants were assumed as the main target population for cataract surgery. The number of subjects who had received cataract surgery at baseline was 29, with 62.1% (18/29) of them aged older than 70 years. Therefore, the cataract surgery coverage was 2.27% (29/1280) in the whole study population and 4.62% (18/390) in subjects older than 70 years. The simulated samples under different assumptions of CSR were constructed to estimate the effect of CSR on OA prevalence.

To achieve a CSR of 2000 among the total population (of all ages), 25 (2000/1,000,000×12,563) cataract operations would be required in 1 year in the study population (N = 12,563) according to the definition of CSR (the number of cataract operations performed in 1 year/million population). On the basis of this assumption, the cumulative number of cataract operations performed in 1 year/million population (N) would be 25 (2000/1,000,000×12,563) cataract operations (of all ages), 25 (2000/1,000,000×12,563) cataract operations for the right eye only.

For the baseline population, the overall prevalence of OA was 11.3% (95% confidence interval, 9.5%–13.1%), and an increasing trend was observed with age. The proportion of subjects with cataract surgery, mean ACD, and mean LT in people with OA and those without OA are summarized in Supplemental Table 2 (Supplemental Digital Content 2, http://links.lww.com/JIG/A478). In total, participants with OA had lower CSR, shallower ACD, and greater LT. The characteristics of different CSR cohorts acquired by sampling are summarized in Table 2. ACD tended to be deeper as CSR increased and OA prevalence tended to be lower as CSR increased. The OA prevalence decreased from 11.4% to 10.1% with CSR increasing from 2000 to 12,000.

The relationship between different CSR and mean ACD is shown in Figure 1. Mean ACD increased with CSR increased, particularly when the CSR increased from 2000 to 6000 and from 8000 to 12,000. The mean ACD in the simulated CSR cohorts were 2.73, 2.75, 2.77, 2.78, 2.80, and 2.82 mm, respectively.

The changing trends of age-specific ACD in different CSR cohorts is illustrated in Figure 2. The mean ACD showed a decreasing trend for those aged of 50 to 70 years but showed an increasing trend for those aged over 70 years. The relationship between ACD and the prevalence of OA was shown in Figure 3. ACD was divided into 6 groups from 2.00 to 3.50 mm by an interval of 0.30 mm. Figure 3 shows that OA proportions decreased rapidly from ~35% to 3% when ACD increased from 2.00 to 2.90 mm. OA prevalence was reduced when ACD was > 2.90 mm.

The predictive age-specific rates of OA in different CSR cohorts are illustrated in Figure 4. In each CSR cohort, the rates of OA increased with age in an approximately linear fashion. The rates of OA decreased slightly in each age group...
with increasing CSR in those less than 65 years. In the population over 75 years, the rate of OA decreased significantly from ~20.0% to 15.0% as CSR increased from 2000 to 12,000.

Particularly, as shown in Supplemental Table 1 (Supplemental Digital Content 1, http://links.lww.com/IJG/A477), with CSR increased from 2000 to 12,000, the OA prevalence decreased from 17.5% to 15.1% and 16.1% to 13.6%, respectively, when 70% and 90% of surgeries were presumed to perform in subjects older than 70 years.

Changes in ACD were an important factor by which OA prevalence was affected in different CSR cohorts. A shallower ACD has been identified as the key risk factors for PACG and was traditionally recognized as an effective way of detecting PACG.6,7,9,38 A comparative, nonrandomized, interventional study from Japan showed that after cataract surgery, the chamber angle and ACD in eyes with PACG increased substantially, becoming similar to primary open-angle glaucoma patients or normal eyes over a 12-month follow-up period.12 Many studies have pointed out that long-term intraocular pressure control in PACG was due to the anatomic changes caused by lens extraction.18,39,40

The most significant decreasing trends were observed among those aged over 75 years, with the rate of OA declining from ~20.0% to 15.0%. The possible reason for this may be that cataract surgery coverage was higher among the older population and mean ACD was deeper than groups with lower cataract surgery coverage such as the 60 to 64 and 65 to 69 age groups.41 Considering that OA is a progressive stage of PACG which will cause blindness without timely treatment, earlier cataract surgery is recommended in glaucoma patients to preserve visual acuity.16,42 Findings from this investigation suggest that cataract surgery should be performed at a younger age to reduce the incidence of PACG and to improve cataract related vision impairment.26

Our study indicated that the rate of OA decreased with increasing CSR, especially among people over 70 years of age. A similar inverse relationship between CSR and PACG prevalence has been reported in different ethnicities in previous studies.26–28,43 One prediction study using data from the Meiktila Eye Study43 estimated that 38.5% of the burden of angle closure could be reduced in the adult population if cataract surgery were performed in 8.8% of eyes with angle,12,15,35 especially for eyes with PACG.12,16,19,35–38

**DISCUSSION**

A better understanding of the effect that CSR has on OA prevalence is of great importance for the management of cataract and health policymakers. Our study attempted to evaluate the changes of the age-specific prevalence of OA with different predefined CSR by using a prediction model from a population-based study of elderly Chinese. The results showed an inverse association between CSR and the prevalence of OA. The prevalence of OA decreased from 11.4% to 10.1% with CSR increased from 2000 to 12,000. This decreasing trend was more remarkable among those aged over 70 years.

Changes in ACD were an important factor by which OA prevalence was affected in different CSR cohorts. A shallower ACD has been identified as the key risk factors for PACG and was traditionally recognized as an effective way of detecting PACG.6,7,9,38 It is assumed that age-related thickening of the lens plays a fundamental role in the shallowing of the ACD. Many studies suggest that cataract extraction can widen the ACD and the anterior chamber angle,12,15,35 especially for eyes with PACG.12,16,19,35–38

### TABLE 1. Age-specific Cataract Surgery Coverage, Prevalence of OA, ACD, and LT in Liwan Eye Study

| Age Groups | n  | Cataract Surgery Coverage (%) | ACD (mm) ± SD | LT (mm) ± SD | OA (%) ± SD |
|------------|----|-----------------------------|--------------|-------------|------------|
| 50-54      | 248| 0.40 (0.01-2.25)            | 2.82 ± 0.35  | 4.12 ± 0.54 | 2.42 (0.89-5.19) |
| 55-59      | 150| 0 (0-1.95)                  | 2.73 ± 0.33  | 4.17 ± 0.63 | 5.88 (2.97-10.3) |
| 60-64      | 150| 2.67 (0.73-6.69)            | 2.69 ± 0.33  | 4.23 ± 0.68 | 6.67 (3.24-11.9) |
| 65-69      | 236| 0.85 (0.10-3.03)            | 2.69 ± 0.33  | 4.35 ± 0.69 | 15.3 (10.9-20.5) |
| 70-74      | 234| 5.13 (2.68-8.79)            | 2.72 ± 0.41  | 4.40 ± 0.72 | 14.1 (9.91-19.2) |
| > 75       | 225| 4.44 (2.15-8.02)            | 2.65 ± 0.36  | 4.39 ± 0.76 | 21.3 (16.2-27.3) |
| P          |    |                            | < 0.001      | < 0.001     | < 0.001     |

*People with cataract surgery and people with OA were presented as percentage prevalence (95% confidence interval).

ACD indicates anterior chamber depth; CSR, cataract surgery rate; LT, lens thickness; OA, occludable angle.

### TABLE 2. ACD, LT, and Prevalence of OA in Different Simulated CSR Cohorts

| CSR  | n  | Age (y) | ACD (mm) ± SD | LT (mm) ± SD | OA* (%) ± SD |
|------|----|---------|--------------|-------------|-------------|
| 2000 | 10,000 | 65.2 ± 9.70 | 2.73 ± 0.38 | 4.30 ± 0.69 | 11.4 (10.8-12.0) |
| 4000 | 10,000 | 65.3 ± 9.70 | 2.75 ± 0.40 | 4.30 ± 0.68 | 11.2 (10.6-11.9) |
| 6000 | 10,000 | 65.5 ± 9.66 | 2.77 ± 0.41 | 4.29 ± 0.68 | 10.9 (10.3-11.6) |
| 8000 | 10,000 | 65.6 ± 9.72 | 2.78 ± 0.43 | 4.30 ± 0.68 | 11.4 (10.8-12.1) |
| 10,000 | 10,000 | 65.7 ± 9.65 | 2.80 ± 0.44 | 4.31 ± 0.68 | 10.8 (10.2-11.4) |
| 12,000 | 8575 | 66.0 ± 9.70 | 2.82 ± 0.46 | 4.31 ± 0.69 | 10.1 (9.46-10.7) |

*OA was presented as percentage prevalence (95% confidence interval).

†In this simulated CSR cohort, the sample size was <10,000 because the baseline population size was not large enough.

ACD indicates anterior chamber depth; CSR, cataract surgery rate; LT, lens thickness; OA, occludable angle.
visually significant cataract. Data from the Taiwanese National Health Insurance Research Database indicated that the admissions for acute PACG declined from 630 cases in 1997 to 351 cases per 100,000 population in 2004, while the number of cataract surgery increased significantly from 26,600 in 1997 to 77,924 in 2004 among Taiwanese aged 40 years and older. Another study from the Information Service Division (ISD) Scotland showed that the rate of acute PACG decreased by 46.4% (from 46.7 to 25.0/million), with the rate of cataract surgery increased by 73.4% (from 354.2 to 615.2/100,000) between the years 1998 to 2012. We believe that increasing CSR will change the proportion of PAC disease and reduce the rate of PACG, which is the leading cause of glaucoma-related blindness worldwide. It is reasonable to suggest that Governments promote strategies that focus on increasing CSR, especially in countries such as China who have the largest number of cataract and PACG patients, but low CSR.

The current study has several strengths, including a large representative sample that was drawn from a population-based study. Given that it was not possible to obtain different pre-defined CSR cohorts in the same population, we performed repeated sampling according to the multinomial distribution from the eligible database and acquired the necessary data that would simulate cohorts with different CSR. The limitation of this is that results may not fully predict real-world situations. Another potential limitation of this study is that the predictive prevalence of OA among different CSR cohorts may be population-specific, the Liwan Eye Study may not be representative of other populations worldwide, thus, the conclusion may not be generalizable. Further research with larger sample sizes and better designs is required.

To the best of our knowledge, this is the first simulation study on the age-specific prevalence of OA by different CSR using a population-based sample of Chinese adults. Our study showed an inverse relationship between CSR and prevalence of OA, especially among those aged 70 years and older. Besides, the higher proportion of surgeries presumed to perform in subjects older than 70 years, the more significant decreasing trend of OA prevalence. This is a very
important finding for public health planning for the prevention of PACG, particularly for Asians among whom PACG is the most common type of glaucoma. As the rate of OA decreased with increasing CSR, especially in the age group over 70 years, and in consideration of cost-effectiveness and efficiency, cataract surgeries should be prioritized for patients with significant vision-threatening cataracts in their late 60s to 70s, especially for those with a high risk of angle closure or comorbidities such as exfoliation syndrome. Furthermore, long-term follow-up is warranted to gain a fuller knowledge of the relationship between cataract surgery and angle closure.

REFERENCES

1. Tham YC, Li X, Wong TY, et al. Global prevalence of glaucoma and projections of glaucoma burden through 2040: a systematic review and meta-analysis. *Ophthalmology*. 2014;121:2081–2090.

2. Foster PJ, Norma P. Glaucoma in China: how big is the problem? *Br J Ophthalmol*. 2001;85:1277–1282.

3. Quigley HA, Broman AT. The number of people with glaucoma worldwide in 2010 and 2020. *Br J Ophthalmol*. 2006;90:262–267.

4. Resnikoff S, Pascolini D, Etya’ale D, et al. Global data on visual impairment in the year 2002. *Bull World Health Organ*. 2004;82:844–851.

5. Xu L, Cui WF, Wang YX, et al. Anterior chamber depth and angle angle and their associations with ocular and general parameters: the Beijing Eye Study. *Am J Ophthalmol*. 2008;145:929–936.

6. Aung T, Nolan WP, Machin D, et al. Anterior chamber depth and the risk of primary angle closure in 2 East Asian populations. *Arch Ophthalmol*. 2005;123:527–532.

7. Wang L, Hong W, Huang S, et al. Ten-year incidence of primary angle closure in elderly Chinese: the Liwan Eye Study. *Br J Ophthalmol*. 2019;103:355–360.

8. Tarongoy P, Ho CL, Walton DS. Angle-closure glaucoma: the role of the lens in the pathogenesis, prevention, and treatment. *Surv Ophthalmol*. 2009;54:211–225.

9. Devereux JG, Foster PJ, Baasahnu J, et al. Anterior chamber depth measurement as a screening tool for primary angle-closure glaucoma in an East Asian population. *Arch Ophthalmol*. 2000;118:257–263.

10. Lavan K, Wong TY, Friedmann DS, et al. Determinants of angle closure in older Singaporeans. *Arch Ophthalmol*. 2008;126:686–691.

11. He M, Huang W, Zheng Y, et al. Anterior chamber depth in elderly Chinese; the Liwan Eye Study. *Ophthalmology*. 2008;115:490–495.

12. Hayashi K, Hayashi H, Nakao F, et al. Changes in anterior chamber angle width and depth after intraocular lens implantation in eyes with glaucoma. *Ophthalmology*. 2000;107:698–703.

13. Lowe RF. Causes of shallow anterior chamber in primary angle-closure glaucoma. Ultrasonic biometry of normal and angle-closure glaucoma eyes. *Am J Ophthalmol*. 1969;78:87–93.

14. Lowe RF. Aetiology of the anatomical basis for primary angle-closure glaucoma. Biometrical comparisons between normal eyes and eyes with primary angle-closure glaucoma. *Br J Ophthalmol*. 1970;54:161–169.

15. Weinreb RN, Aung T, Medeiros FA. The pathophysiology and treatment of glaucoma: a review. *JAMA*. 2014;311:1901–1911.

16. Azuara-Blanco A, Burr J, Ramsay C, et al. Effectiveness of early lens extraction for the treatment of primary angle-closure glaucoma (EAGLE): a randomised controlled trial. *Lancet*. 2016;388:1389–1397.

17. Kansara S, Bledsen LS, Chuang AZ, et al. Effect of laser peripheral iridotomy on anterior chamber angle anatomy in primary angle closure spectrum eyes. *J Glaucoma*. 2016;25: e469–e474.

18. Chen PF, Lim SC, Junk AK, et al. The effect of phacoemulsification on intraocular pressure in glaucoma patients: a report by the American Academy of Ophthalmology. *Ophthalmology*. 2015;122:1294–1307.

19. Hussein R, Gazzard G, Aung T, et al. Initial management of acute primary angle closure: a randomized trial comparing phacoemulsification with laser peripheral iridotomy. *Ophthalmology*. 2012;119:2274–2281.

20. Flaxman SR, Bourne RRA, Resnikoff S, et al. Global causes of blindness and distance vision impairment 1990-2020: a systematic review and meta-analysis. *Lancet Glob Health*. 2017;5:e1221–e1234.

21. Schein OD, Cassard SD, Tieloch JM, et al. Cataract surgery among Medicare beneficiaries. *Ophthalmic Epidemiol*. 2012;19:257–264.

22. World Health Organization. Global cataract surgical rates. 2004. Geneva, Switzerland: WHO. Available at: www.who.int/blindness/data_maps/cataract_surgery_rate/en/index.html. Accessed May 16, 2019.

23. Pascolini D, Mariotti SP. Global estimates of visual impairment: 2010. *Br J Ophthalmol*. 2012;96:614–618.

24. Zhao JL. The progress in the prevention of blindness in China. *Zhonghua Yan Ke Za Zhi*. 2005;41:697–701.

25. National Health and Family Planning Commission of China. Annual Report 2017. 2018. Available at: www.moheyes.com/news/details?3bed4465-78c4-40e3-8532-25eeb128565b. Accessed May 4, 2019.

26. Gillan SN, Wilson PJ, Knight DS, et al. Trends in acute primary angle-closure glaucoma, peripheral iridotomy and cataract surgery in Scotland, 1998–2012. *Ophthalmic Epidemiol*. 2016;23:1–5.

27. Keenan TD, Salmon JF, Yeates D, et al. Trends in rates of primary angle closure glaucoma and cataract surgery in England from 1968 to 2004. *J Glaucoma*. 2009;18:201–205.

28. Hu CC, Lin HC, Chen CS, et al. Reduction in admissions of patients with acute primary angle closure occurring in conjunction with a rise in cataract surgery in Taiwan. *Acta Ophthalmol*. 2008;86:440–445.

29. He M, Foster PJ, Ge J, et al. Prevalence and clinical characteristics of glaucoma in adult Chinese: a population-based study in Liwan District, Guangzhou. *Invest Ophthalmol Vis Sci*. 2006;47:2782–2788.

30. Foster PJ, Aung T, Nolan WP, et al. Defining “occludable” angles in population surveys: drainage angle width, peripheral anterior synecchia, and glaucomatous optic neuropathy in east Asian people. *Br J Ophthalmol*. 2004;88:486–490.

31. Foster PJ, Buhrmann R, Quigley HA, et al. The definition and classification of glaucoma in prevalence surveys. *Br J Ophthalmol*. 2002;86:238–242.

32. Pareto D, Aguia P, Pavia J, et al. Assessment of SPM in perfusion brain SPECT studies. A numerical simulation study using bootstrap resampling methods. *IEEE Trans Biomed Eng*. 2008;55:1849–1853.

33. Efron B, Tibshirani R. *An Introduction to the Bootstrap*. London, UK: Chapman & Hall; 1994:17–28.

34. Foster PJ, Alsbirk PH, Baasahnu J, et al. Anterior chamber depth in Mongolians: variation with age, sex, and method of measurement. *Am J Ophthalmol*. 1997;124:53–60.

35. Friedman DS, Vedula SS. Lens extraction for chronic angle-closure glaucoma. *Cochrane Database Syst Rev*. 2006;3:CD005555.

36. Harasymowycz PJ, Papamastheakis DG, Ahmed I, et al. Phacoemulsification and goniosynechialysis in the management of unresponsive primary angle closure. *J Glaucoma*. 2005;14:186–189.

37. Shun HC, Subrayang V, Tajunishah I. Changes in anterior chamber depth and intraocular pressure after phacoemulsification in eyes with occludable angles. *J Cataract Refract Surg*. 2010;36:1289–1295.

38. Lam DS, Leung DY, Tham CC, et al. Randomized trial of early phacoemulsification versus peripheral iridotomy to prevent intraocular pressure rise after acute primary angle closure. *Ophthalmology*. 2008;115:1134–1140.

39. Acton J, Salmon JF, Scholtz R. Extracapsular cataract extraction with posterior chamber lens implantation in primary angle-closure glaucoma. *J Cataract Refract Surg*. 1997;23:930–934.
40. Di Staso S, Sabetti L, Taverniti L, et al. Phacoemulsification and intraocular lens implant in eyes with primary angle-closure glaucoma: our experience. *Acta Ophthalmol Scand Suppl.* 2002;236:17–18.

41. Zhao J, Ellwein LB, Cui H, et al. Prevalence and outcomes of cataract surgery in rural China the China nine-province survey. *Ophthalmology.* 2010;117:2120–2128.

42. Johnston RL, Sparrow JM, Canning CR, et al. Pilot National Electronic Cataract Surgery Survey: I. Method, descriptive, and process features. *Eye.* 2005;19:788–794.

43. Chan W, Garcia JA, Newland HS, et al. 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. *Clin Exp Ophthalmol.* 2012;40:e128–e134.