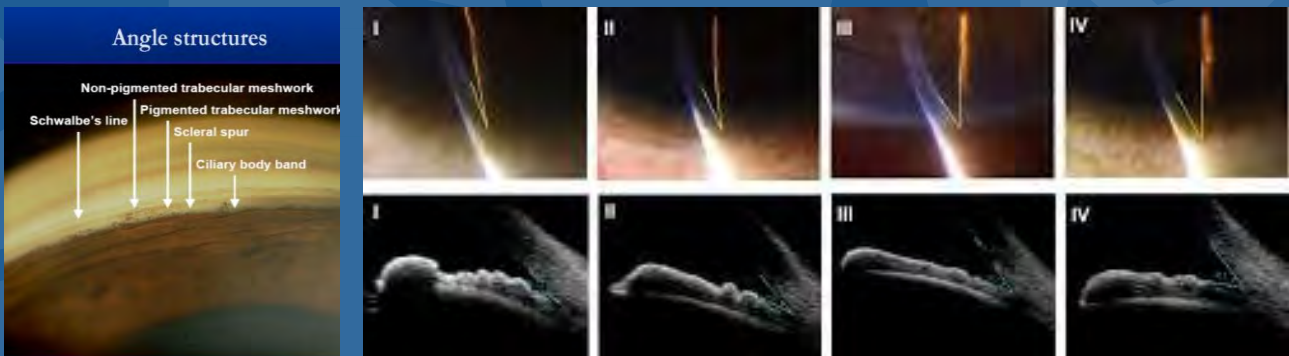


Introduction:

The current COVID pandemic has caused us all to re-evaluate our clinical practice, to ensure that only those patients that truly need secondary eye care services, are brought into hospital.

- In 2015 the Scottish intercollegiate guidelines network (SIGN)¹ stated that irrespective of intraocular pressure, patients with one or more of the following findings should be referred to secondary-eye-care services:
- optic disc signs consistent with glaucoma in either eye
 - a reproducible visual field defect consistent with glaucoma in either eye
 - risk of angle closure defined as...
 - using Van Herrick technique, if the peripheral anterior chamber width is one quarter or less of the corneal thickness
 - using gonioscopy, if ≥270 degrees of posterior pigmented trabecular meshwork is not visible



In 2019 The Lancet published the study entitled “Laser peripheral iridotomy for the prevention of angle closure: A single centre, randomised controlled trial”². Bilateral primary angle closure suspects aged 50-70 were enrolled in the Zhongshan Ophthalmic Centre, China. The study concluded that in view of the low incidence rate of primary angle closure disease, the benefit of prophylactic laser peripheral iridotomy is limited.

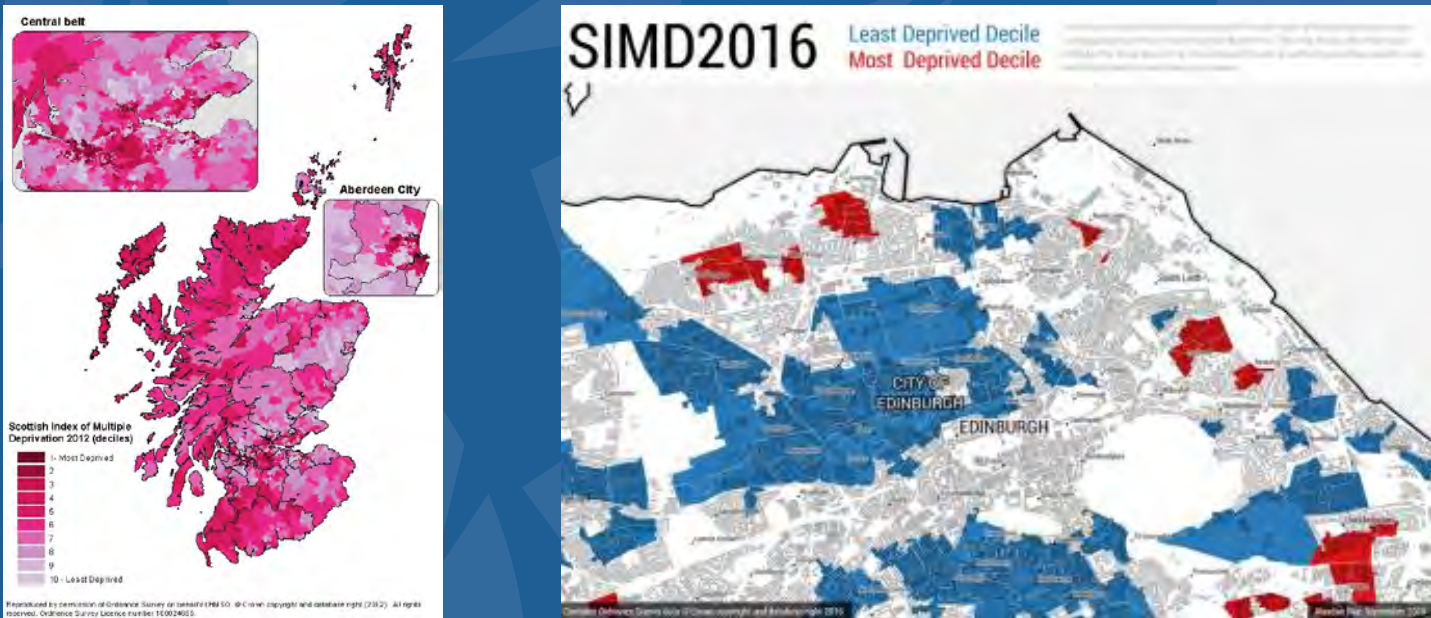
We are aware the above study involves a population greatly different from our own, however the topic of whether to treat asymptomatic patients with occludable angles has been hotly contested. We postulated that to reduce unnecessary interventions and footfall through our hospital, we should be targeting treatment towards those with occludable angles plus identified risk factors of angle closure disease.

SIGN guidance denotes the following risk factors for primary angle-closure glaucoma

- increasing age (from age 40)
- female sex
- eastern Asian ethnicity

| Age | % Prevalence ^{1,2} |
|-------------------------|---|
| ≥70 | 0.94 (0.63–1.35) |
| 60–69 | 0.20 (0.06–0.42) |
| 50–59 | 0.60 (0.27–1.00) |
| 40–49 | 0.02 (0.00–0.08) |
| Female sex | Female to male ratio ^{1,4} 3.25:1 (1.76–5.94) |
| Eastern Asian ethnicity | Primary angle-closure glaucoma prevalence is higher in people of Asian and east Asian descent compared with European descent ^{1,4} |

Within Scotland the severity of glaucoma at presentation has been shown to be significantly associated with Scottish Index of Multiple Deprivation (SIMD) rank, being most severe in patients from areas with lowest ranks³.

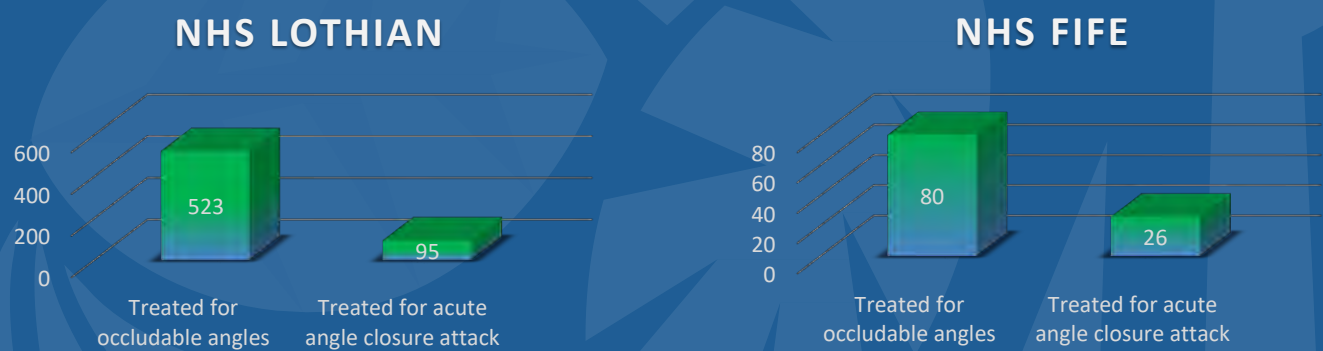


We set forth to see if that relationship was true of acute angle closure attacks.

Method:

A retrospective study was performed within NHS Lothian and NHS Fife. Logbooks identified all patients that had laser peripheral iridotomies (PIs) between 01/01/2015 and 01/01/2020. Patient postcodes were collected from the TRAK clinical database. Using the Scottish index of multiple deprivation (SIMD) we assessed the relationship between socioeconomic status and acute angle closure attacks. SIMD ranks 1 as most deprived postcode and 6976 as the least.

Results:



- Within NHS Lothian
- Mean SIMD for the occludable angles: 4344.5 (+/- 1966.2)
 - Mean SIMD for the acute angle closure attack: 3770.4 (+/- 2118.5)
 - Statistically significant difference (*P* value 0.015)
- Within NHS Fife
- Mean SIMD for the occludable angles: 3846.5 (+/- 1894.9)
 - Mean SIMD for the acute attack: 2486.6 (+/- 1779.3)
 - Statistically significant difference (*P* value 0.002)

Conclusion:

There is a statistically significant relationship between socioeconomic deprivation and the occurrence of acute angle closure attacks. We would suggest that this should be considered a ‘risk factor’ when considering review and treatment of these patients.

References:

1) Scottish Intercollegiate Guideline Network. Glaucoma referral and safe discharge. March 2015. Edinburgh:SIGN Guideline No.144 accessed via www.sign.ac.uk/sign-144-glaucoma-referral-and-safe-discharge.html

2)He M, Aung T, Huang S, et al. Laser peripheral iridotomy for the prevention of angle closure: a single-centre, randomised controlled trial. The Lancet. Vol 393, Issue 10181,P1609-1618, April 2019.

3)Ng W, Agarwal P, Sidiki S. The effect of socio-economic deprivation on severity of glaucoma at presentation. Br J Ophthalmol. 94(1):85-7. Jan 2010.