

## Abstracts of Asian research published in the international literature

### Visual Field Loss from Primary Angle Closure Glaucoma

This observational case series was performed to assess the degree of visual field (VF) loss in patients with primary angle closure glaucoma (PACG), and to compare the severity of such loss between those with symptomatic and asymptomatic disease. Seventy six consecutive patients with PACG who presented at a Singapore hospital were included in the study.

Primary angle closure glaucoma was defined as the presence of glaucomatous optic neuropathy and compatible VF loss associated with closed angles. There were 2 groups of patients, as follows:

- group A consisted of those patients who presented with acute symptomatic angle closure (n = 40)
- group B consisted of those patients who were asymptomatic (n = 36).

All patients underwent static automated threshold perimetry, and the first reliable VF was analysed using the Advanced Glaucoma Intervention Study (AGIS) scoring system. The field tests were graded according to severity as mild, moderate, severe, and end-stage VF defects, based on AGIS scores of 0 to 5, 6 to 11, 12 to 17, and 18 to 20, respectively.

The mean age of the patients was  $61.4 \pm 9.6$  years (range, 33.0 to 84.0 years), and the majority of patients were female (59%) and Chinese (91%). In group A, most eyes had mild or moderate VF defects (23 eyes [57.5%]), whereas 7 eyes (17.5%) had end-stage defects. This was in contrast to group B, in which the majority of eyes had end-stage VF loss (19 eyes [52.8%]), with

only 5 eyes (13.7%) having mild VF defects. Mean AGIS scores were  $9.1 \pm 7.6$  for group A and  $14.2 \pm 6.9$  for group B ( $p = 0.004$ ). Cup-disc ratio was a significant predictor of VF loss, but age, sex, and level of presenting intraocular pressure were not correlated with VF outcome.

Eyes with asymptomatic PACG often present with severe to end-stage VF loss at the time of first presentation to hospital. In contrast, most PACG eyes with previous symptomatic angle closure present with mild or moderate VF defects. The visual morbidity of PACG may be related to the finding that the asymptomatic form of the disease is visually destructive.

Ang LP, Aung T, Chua WH, Yip LW, Chew PT. Visual field loss from primary angle-closure glaucoma: a comparative study of symptomatic and asymptomatic disease. *Ophthalmology* 2004;111:1636-1640.

### Drainage Angle Configuration after Peripheral Iridotomy for Acute Angle Closure

This prospective observational case series was performed to evaluate the changes in the configuration of the drainage angle in the first year after acute primary angle closure (APAC) in 44 Asian patients. Patients with APAC were treated with medical therapy followed by laser peripheral iridotomy (LPI). Static and dynamic gonioscopies were performed in APAC-affected and fellow eyes before LPI (baseline) and then at 2 weeks, 4 months, and 12 months after presentation. The angles were graded in each quadrant according to the Shaffer scheme, and the number of clock hours of peripheral anterior synechiae (PAS)

was recorded. Patients who underwent intraocular surgery at any point during follow-up were excluded from the study. Intraocular pressure (IOP) and medical treatment were documented at each visit, and gonioscopic changes were correlated with the development of elevation in IOP requiring medical treatment.

The majority of patients were Chinese (84%) and female (64%), and the mean age was  $60.2 \pm 10.7$  years. At presentation, 73% of both affected and fellow eyes had very narrow angles (average Shaffer grade  $\leq 1$ ), with affected eyes having more extensive PAS ( $p < 0.001$ ), a third of whom had  $\geq 8$  clock hours of PAS. In APAC eyes, there was a significant increase in angle width from baseline to 2 weeks after LPI ( $p = 0.045$ ), but no subsequent change in angle width. Fellow eyes showed a widening of the angle between baseline and week 2 ( $p = 0.01$ ) and from week 2 to month 4 ( $p = 0.001$ ). There was no significant change in PAS in either affected or fellow eyes during the 12 months of follow-up.

Of the 44 patients, 19 (41.3%) subsequently developed IOP elevation during follow-up that required treatment. However, there was no difference in angle width or amount of PAS between eyes with and without a subsequent rise in IOP, and the angle configuration did not change significantly in either group over 1 year.

In Asian eyes with APAC, the angle widened in the first 2 weeks after LPI, but did not change thereafter over 1 year, and the amount of PAS remained stable throughout. The results indicate the effectiveness of LPI in preventing progressive closure of the angle in the first year after APAC.

Lim LS, Aung T, Husain R, Wu YJ, Gazzard G, Seah SK. Acute primary angle closure: configuration of the drainage angle in the first year after laser peripheral iridotomy. *Ophthalmology* 2004;111:1470-1474.

