

Clear lens extraction for PACS

Rahat Husain *MBBS FRCOphth MD(Res)*

Consultant, Glaucoma Service, Singapore National Eye Centre

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I'm always seeing patients like this..

- 67 year old female Chinese race
- VA 6/7.5 both
- Narrow angles
- Normal IOP, no PAS, normal discs and fields
- CLE ?



What else do I want to know?

- Refraction
- ASOCT
- Corneal endothelial cell count
- Family history of glaucoma
- Attitude to risk
- Financial situation
- Where am I working?

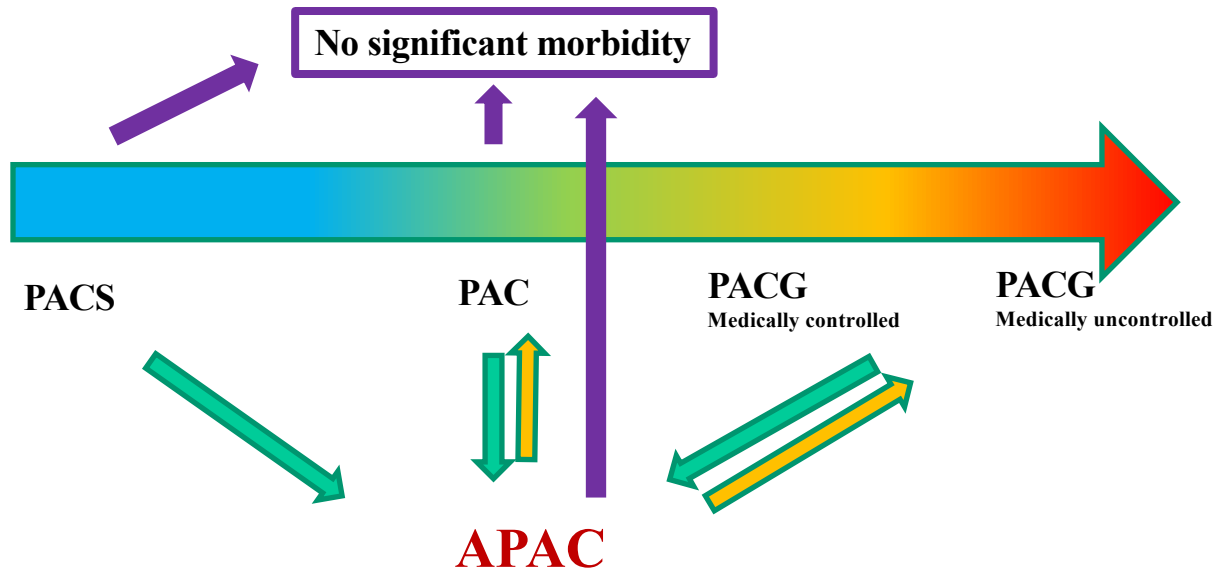


What's the alternative to CLE?

- Do nothing
- Laser peripheral iridotomy
- Laser peripheral iridoplasty



Primary angle closure disease



Br J Ophthalmol. 2003 Apr;87(4):450-4.

Five year risk of progression of primary angle closure suspects to primary angle closure: a population based study.

Thomas R¹, George R, Parikh R, Muliyil J, Jacob A.

CONCLUSION: In this population based study of PACS the 5 year incidence of PAC was 22%; none developed functional damage. Bilateral PACS was a clinical risk factor for progression.

Acta Ophthalmol Scand. 2003 Oct;81(5):480-5.

Five-year risk of progression of primary angle closure to primary angle closure glaucoma: a population-based study.

Thomas R¹, Parikh R, Muliyil J, Kumar RS.

CONCLUSION: In this population-based study of primary angle closure, the 5-year incidence of PACG was eight patients (28.5%; 95% CI 12-45%). We were unable to identify any features that predicted progression.

36% (7/19) of those who refused LPI developed glaucoma)

Anatomical risk factors in primary angle-closure glaucoma

A ten year follow up survey based on limbal and axial anterior chamber depths in a high risk population

Poul Helge Alsbirk
Eye Department, Central Hospital, Helsevej 2, 3400 Hillerød, Denmark

Conclusion

The present survey gave support to previous attempts of early PACG detection. Ten year follow up of normal persons with shallow chambers, primarily aged 30 and above, eventually showed about 16% of new PACG cases. A simple slit lamp

Over a 10 year period, by doing nothing, around 84% of people with PACS won't develop glaucoma



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PACG is a serious disease

- PACG results in more irreversible blindness than POAG despite being less common worldwide
- By 2020 it is predicted that over 5 million people worldwide will be blind because of PACG

Foster PJ, Johnson GJ. Glaucoma in China: how big is the problem? Br J Ophthalmol. 2001;85(11):1277–82

Quigley HA, Broman AT. The number of people with glaucoma worldwide in 2010 and 2020. Br J Ophthalmol. 2006;90(3):262–7



Lens extraction is not without serious sight threatening consequences

Risk Factors for Acute Endophthalmitis following Cataract Surgery: A Systematic Review and Meta-Analysis

He Cao , Lu Zhang , Liping Li , SingKai Lo

Published: August 26, 2013

Since 2000 Post phaco endophthalmitis rates 0.012% - 1.3%

PCR associated with endophthalmitis

Is PCR more common in a soft lens?

**Endothelial cell loss
after phacoemulsification:
Relation to preoperative and
intraoperative parameters**

Tony Walkow, MD, Norbert Anders, MD, Sonja Klebe, MD

Table 4. Final stepwise regression model for predicting endothelial cell loss ($R^2 = 0.39$).

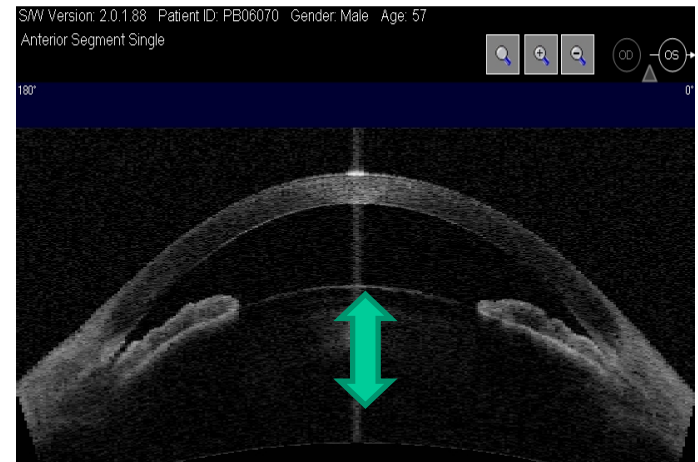
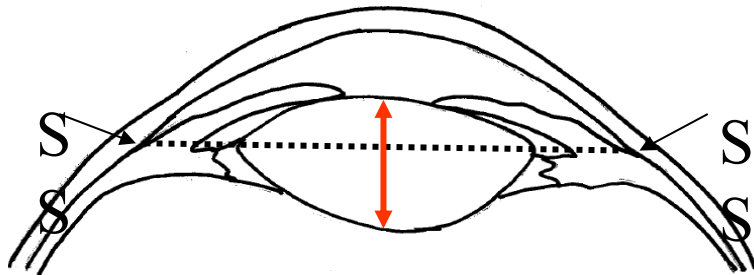
| Variable | Beta | Standard Error β | F value | P value |
|--------------|-----------|------------------------|---------|---------|
| Phaco time | 0.430372 | 0.055422 | 10.25 | .0030 |
| Axial length | -0.400861 | 0.015932 | 10.53 | .0003 |



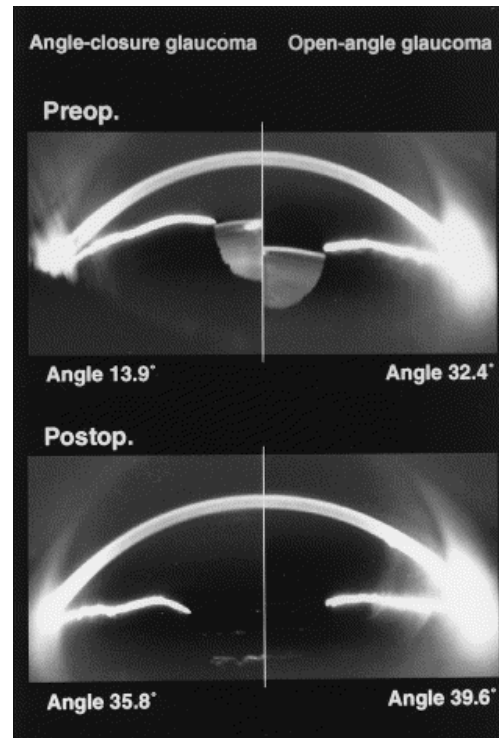
Lens thickness and lens vault

Lens Vault, Thickness, and Position in Chinese Subjects with Angle Closure

Monisha E. Nongpiur, MD,¹ Mingguang He, MD, PhD,² Nishani Amerasinghe, MRCOphth,^{1,3}
David S. Friedman, MD, PhD,⁴ Wan-Ting Tay, BSc,¹ Mani Baskaran, MS,¹ Scott D. Smith, MD, MPH,⁵
Tien Yin Wong, MD, PhD,^{1,6} Tin Aung, FRCS(Ed), PhD^{1,6}



The effect of lens extraction on the AC depth



Hayashi K. Ophthalmology 2000



Incidence of PACD

Ten-year incidence of primary angle closure in elderly Chinese: the Liwan Eye Study

Lanhua Wang,¹ Wenyong Huang,¹ Shengsong Huang,¹ Jian Zhang,¹ Xinxing Guo,¹
David S Friedman,² Paul J Foster,³ Mingguang He^{1,4}

“..thicker lens is an independent predictive risk factor for the development of angle closure...”



Considerations

1. What are the risks/benefits of CLE (*in comparison to...*)?
 - Natural history of the disease (PACS) and how does CLE alter it?
 - Risk of APAC, conversion to glaucoma
 - What are the risks of lens extraction in general and CLE in particular?
 - Most people will need lens extraction at some stage...
 - QOL?
 - Loss of accommodation
 - Cost (to patient and to system)
 - What is our preferred outcome?
 - Reduction of blindness, cost effectiveness, improve QOL
2. Are there subgroups of PACS that would benefit more from CLE intervention compared to alternative management?

