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Anterior segment optical coherence tomography in ophthalmology

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Anterior segment optical coherence tomography (ASOCT) is a new imaging modality that uses low coherence interferometry to obtain *in vivo* cross-sectional images of the anterior segment of the eye in one image frame. ASOCT allows an objective assessment of anterior segment structures. It is a non-contact optical system, can be performed under standardized dark conditions, and can be operated with minimal expertise by a technician. The anterior chamber angle can be evaluated using ASOCT even in the presence of a corneal opacity. Hence, it may have potential for use as a screening tool to detect individuals at risk of angle closure. Studies comparing ASOCT with gonioscopy found that ASOCT detected more closed angles than gonioscopy, which is vulnerable to artefactual findings and overestimation of the angle width. Furthermore, customized softwares now allow semi-automated measurements of the anterior chamber parameters. Quantitative assessment of the changes in the anterior chamber angle can be performed using ASOCT to evaluate the efficacy of treatments for angle closure. Recent applications of ASOCT imaging include the assessment of trabeculectomy blebs and glaucoma drainage implants. There is significant potential for the use of ASOCT in the rapid diagnosis of angle closure and in measuring the effectiveness of treatments. Integration of ASOCT into clinical practice will help to refine and shape our management of glaucoma.

Biography

Dr Chelvin Sng graduated from Gonville and Caius College in Cambridge University with First Class Honours, and distinctions in Medicine, Pathology and Obstetrics and Gynecology. For her academic achievements, she was the elected senior scholar at Gonville and Caius College (2001), and also received the Max A. Barrett Prize (2002), William Harvey Studentship (2002-2004)and the Charles and Iris Brook Prize (2004). After graduation, she was awarded the Singhealth House Officer Award (2006), the International Travel Grant from the Association for Research in Vision and Ophthalmology (2008), and the Australian and NewZealand Glaucoma Interest Group Scholarship (2010).