

Small incision corneal lenticule extraction for myopia and myopic anisometropia

Submission date 14/12/2023	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 10/01/2024	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 15/12/2023	Condition category Eye Diseases	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

Myopic anisometropia is a condition where you have one normal eye and one nearsighted (or myopic) eye. The aim of this study is to assess the effect of small incision lenticule extraction (SMILE), a type of laser eye surgery, on patients with myopic anisometropia.

Who can participate?

Patients aged 18 to 30 years with myopic anisometropia treated with small incision lenticule extraction (SMILE)

What does the study involve?

All participants receive the same treatment with SMILE and undergo eye tests before surgery and at 1 week and 1, 3 and 6 months after surgery,

What are the possible benefits and risks of participating?

Participants receive free eye tests. There are no expected side effects of the treatment.

Where is the study run from?

State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Centre, Sun Yat-sen University (China)

When is the study starting and how long is it expected to run for?

January 2015 to July 2016

Who is funding the study?

The Science and Technology Program of Guangzhou (China)

Who is the main contact?

Dr Shengbei Weng, 1023816828@qq.com

Contact information

Type(s)

Public, Scientific, Principal investigator

Contact name

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Additional identifiers

Study information

Scientific Title

Evaluation of visual outcomes and binocular vision functions following small incision corneal lenticule extraction for myopia and myopic anisometropia

Study objectives

Small incision corneal lenticule extraction (SMILE) is a predictable, effective, and safe method for correcting myopic anisometropia in adults without amblyopia.

Ethics approval required

Ethics approval required

Ethics approval(s)

approved 21/02/2015, Ethics Committee of Zhongshan Ophthalmic Center at the Sun Yat-sen University (State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Centre, Sun Yat-sen University, Guangzhou, 510060, China; +86 (0)13711552618; zocdpo@gzzoc.com), ref: 2013MEKY036

Study design

Single-centre observational longitudinal case-control study

Primary study design

Observational

Study type(s)

Other, Safety, Efficacy

Health condition(s) or problem(s) studied

Myopic anisometropia

Interventions

The ocular parameters used for characterizing binocular functions include: divergence and convergence amplitudes (near and distance), stereoacuity (near and distance), and near and distance horizontal phorias. The Risley rotary prisms are used to evaluate the horizontal vergence ranges. A gradually increasing horizontal Risley prism is placed in both eyes while the patient fixated on a line of Snellen optotype E. Equal amounts of rotatory prism are slowly added in front of each eye (base-in and base-out prism for divergence and convergence, respectively) at a constant velocity (approximately 2 Δ /s) until the subject first reported horizontal diplopia (break value). The distance stereoacuity is tested using the stereotest booklet (Distance Randot Stereotest, Stereo Optical Co., Inc., range: 400-60 arcsec) at 3 meters (m) in a standard illuminated room with polarizing glasses. Near stereoacuity is measured at 40 centimeters (cm) using the Randot circles test (Stereo Randot Test 2 for Adults, Stereo Optical, ranged: 400-12.5arcsec); the graded circles are used to quantify stereopsis. Heterophoria measurements are obtained using the von Graefe technique: a 6 Δ base-up dissociating prism is placed in front of the right eye, and horizontal oculomotor deviation neutralized with a Risley rotary prism in front of the left eye.

Intervention Type

Other

Primary outcome(s)

1. Divergence and convergence amplitudes (near and distance) are measured using Risley rotary prisms preoperatively and at 1 week, 1, 3 and 6 months after surgery
2. Distance stereoacuity is measured using the stereotest booklet (Distance Randot Stereotest, Stereo Optical Co., Inc., range: 400-60 arcsec) preoperatively and at 1 week, 1, 3 and 6 months after surgery
3. Near stereoacuity is measured using the Randot circles test (Stereo Randot Test 2 for Adults, Stereo Optical, ranged: 400-12.5arcsec) preoperatively and at 1 week, 1, 3 and 6 months after surgery
4. Heterophoria measurements are measured using Risley rotary prism preoperatively and at 1 week, 1, 3 and 6 months after surgery

Key secondary outcome(s)

Monocular uncorrected distance visual acuity (UDVA) and corrected distance visual acuity (CDVA) are measured using Snellen charts preoperatively and at 1 week, 1, 3 and 6 months after surgery

Completion date

27/07/2016

Eligibility

Key inclusion criteria

1. Aged 18 to 30 years, stable myopia for ≥ 1 year
2. Corrected distance visual acuity (CDVA) of 20/20 or better
3. SE of -1.00 to -10.00 diopters (D) with or without myopic astigmatism ($< -1.5D$)
4. Qualified for laser refractive surgery for myopia (normal ocular anterior segment examination except for refractive error)

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Upper age limit

30 years

Sex

All

Total final enrolment

49

Key exclusion criteria

1. Patients with any ocular surface diseases
2. History of corneal or intraocular surgery, ocular trauma, keratoconus, cataract, vascular, or autoimmune diseases

Date of first enrolment

01/09/2015

Date of final enrolment

27/01/2016

Locations

Countries of recruitment

China

Study participating centre

State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University

No.54 Xianlie South Road, Yuexiu District

Guangzhou.

China

510060

Sponsor information

Organisation

State Key Laboratory of Ophthalmology

Funder(s)**Funder type**

Government

Funder Name

The Science and Technology Program of Guangzhou, China (2023A04J1891)

Results and Publications**Individual participant data (IPD) sharing plan**

The datasets generated during and/or analysed during the current study will be available upon request from Shengbei Weng (1023816828@qq.com). The data will be shared in Excel form from 15/12/2024.

IPD sharing plan summary

Available on request