PACEYES CATARACT GUIDELINES

PACIFIC EYE CARE SOCIETY (PACEYES) CLINICAL PRACTICE GUIDELINE

IN ASSOCIATION WITH THE PACIFIC EYE INSTITUTE, SUVA, FIJI

1. INTRODUCTION

1.1. Aim

The aim of this guideline is to assist eye doctors in the South Pacific region in providing quality cataract services within their various local settings.

1.2. Disease Definition

A cataract is any lens opacity which results in the reduction of optical clarity and best corrected visual acuity.

1.3. Patient Population Definition

Adults (18 years old and older) with cataracts.

1.4. Ratings and strength of evidence used in this guideline

Ratings: A: Most important, B: Moderately important, C: Relevant but not critical

Strength of Evidence: I: Strong, II: Substantial but lacks some of I, III: consensus of expert opinion in absence of evidence for I & II

2. BACKGROUND

2.1. Burden of disease

Worldwide cataract is the largest cause of preventable blindness.

2.2. Natural history of disease

Development of cataract on a normal clear lens can be a result of variable factors. The most common is the lens becoming denser and losing its optical clarity with age. This results in a hardening of the lens nucleus known as nucleus sclerosis. Other parts of the lens may become opaque before or with the nucleus sclerosis. Other common lens opacities are cortical and posterior subcapsular lens opacity (PSCLO).

2.3. Risk factors for disease

- Trauma to the eye
- Recurrent uveitis
- Corticosteroids usage
- chronic exposure to ultraviolet B light
- Diabetes
- Smoking

2.4. Prevention of disease

Early referral and management of any eye trauma. An alternative treatment option for patients on long-term corticosteroids is important, and strict control of diabetes is essential, in reducing risk of cataract development. Sunglasses and hats can offer protection from UV B light. Implementing a smoking cessation program for patients with early cataract is advisable.

3. DIAGNOSIS

3.1. History

A comprehensive evaluation of ophthalmic and relevant systemic history which includes

3.1.1. Symptoms (A:II) interfering with function

- Blurry vision
- Night glare

3.1.2. Ocular history (A:III) of relevance

- Previous trauma
- Previous surgery

3.1.3. Systemic history (A:III) of relevance

- Diabetes
- Hypertension
- Known allergies

3.2. Examination

3.1.3.1. Measurement of current presenting vision (refraction done if necessary) (A:III)

3.1.3.2. External examination (lids, lashes, Lacrimal apparatus, orbit) (A:III)

3.1.3.3. Examination of ocular alignment and motility (A:III)

3.1.3.4. Assessment of pupillary function (A:III)

3.1.3.5. Measurement of intraocular pressure (IOP) (A:III)

3.1.3.6. Slitlamp biomicroscopy of the anterior segment (cornea, anterior chamber) (A:III)

3.1.3.7. Dilated examination of both eyes of the lens (zonular status) and possible posterior structures such as the disc, macula and periphery (A:III)

3.1.3.8. Relevant systemic and mental status assessment (B:III)

3.3. Investigations

B ultrasound when dense cataract prevents visualization of fundus completely in order to evaluate possible coexisting posterior segment pathologies (e.g. retinal detachment or posterior staphyloma, vitreous haemorrhage in diabetics)

4. MANAGEMENT

Indications for surgery include cataracts causing functional visual loss and cataracts associated with other concurrent ocular disease (lens glaucoma).

Contraindications for surgery include

- Eye infection
- Raised intraocular pressure
- Any systemic condition which could be a threat to life including uncontrollable hypertension, diabetes, unstable cardiac conditions and any significant infectious loci.
- Poor patient motivation or support for the Perioperative period.

4.1. Surgical

4.1.1. Pre-op Guides

4.1.1.1 Adequate anterior and posterior segment examination

4.1.1.2 Accurate Keratometry and A-scan measurements for appropriate personalized lens power calculation using appropriate formulae

4.1.1.3 IOP measurement

4.1.1.4 Ensure patients fitness for surgery

4.1.1.5 Blood pressure of 160/100 mmHg and blood glucose of 12 mmol/L (216mg/dL) must be used as upper limit cut-off levels, however each surgical unit should have

independent protocols on these parameters. Cataract surgeons' discretion on these upper limit values can be reviewed on a case by case basis where exceptions to the above upper limits are unavoidable.

4.1.1.6 Ensure sterile and aseptic environment in OT

4.1.1.7 Ensure sterility of all equipment and instruments to be used

4.1.1.8 Ensure availability and functioning status of all equipment, instruments, IOLs and drugs needed

4.1.1.9 Informed consent (ideally one day pre-op) and patient prep

4.1.1.10 Surgeon/team should formulate a surgical plan which must include:

- Type of anaesthesia
- IOL type and power
- Choice of incision
- Complexity of surgery e.g. small pupil, previous trauma
- Level of surgical experience required

4.1.2. Operation Day Guides (Immediate pre-op, Intra-op, Immediate post-op)

4.1.2.1. Ensure patients safety and welfare

4.1.2.2. Ensure correct identification and correct eye to be operated marked for patients (observe cataract care pathway)

4.1.2.3. Ensure pupil adequately dilated by short acting mydriatics (g. tropicamide, g. cyclopentolate, g. phenylepherine)

4.1.2.4. Adequate infection control with skin prep using Betadine10% and conjunctival antisepsis using Betadine 5% in cul de sac

4.1.2.5. Ensure adequate local anaesthesia is administered

4.1.2.6. Apply preoperative oculopressure to reduce risk of high pressure intraoperatively

4.1.2.7. Verify correct IOL is available and given

4.1.2.8. Preferred procedures are either ECCE + pc-IOL, SICS + pc-IOL or Phaco + pc-IOL according to the experience of the surgeon and the available equipment as well as the density of the cataract

4.1.2.9. Preferably an anterior vitrectomy machine should be available for any anterior vitrectomies

4.1.2.10. Intracameral Cephazolin 1mg in 0.1ml given at the end of surgery (see annex at the end of document)

4.1.2.11. Adequate eye pad and or shield at end of surgery

4.1.2.12. Sufficient patient instruction and pain management for immediate post-op period given, as well as providing a printed patient hand out of the same. In particular have a strategy to reduce the risk of raised IOP

4.1.2.13. Appropriate care when unpacking or setting up microscopes and other OT equipments

4.1.2.14. Maintain correct settings and usage for all OT equipments and instruments

4.1.2.15. Ultimate care with fragile micro-instruments and standard handling methods of micro-instruments

4.1.2.16. Any event occurring perioperatively which could cause an adverse patient outcome needs to be documented for audit purposes.

4.1.2.17. Cataract surgery clinical pathway forms should be in routine use.

4.1.3. Post-op Guides

4.1.3.1. First day post operatively remove eye pad, clean outer eye and lids with saline

4.1.3.2. Wait at least 10 minutes before taking VA, unaided and with pinhole.

4.1.3.3. Ensure adequate examination of anterior segment structures (cornea, AC, pupil, IOL)

4.1.3.4. Measure IOP and treat any increased IOP

4.1.3.5. Apply antibiotic and steroid eye drops

4.1.3.6. Ensure sufficient advice (with an optional printed handout) on eye care at home and medication details

4.1.3.7. Review planned 1- 8 weeks postoperatively to ensure satisfactory outcome and collect data for Cataract Outcome Monitoring

4.1.3.8. Aim to assess and provide for correction of remaining refractive error if necessary at 6-8 weeks

4.1.4. Follow -up Guides

Ensure patients receives continuous, sufficient and adequate post-op medications and specialist care

Ensure patients' records are updated and easily accessible

4.2. Non-surgical

Cataracts causing reduced vision which can be improved adequately with available spectacles. Patients with Immature cataracts can be reassured to wait for the cataract to mature before opting for surgery.

4.3. Diabetes and Cataract

Glycaemic control in diabetics is essential and recommendation on an acceptable glucose level of less than 12mmol/L (216mg/dL) must be achieved and maintained before cataract surgery.

References

1) Colonial War Memorial Hospital**. Clinical Practice Guideline for Cataract**, Fiji 2009.

2) American Academy of Ophthalmology. **Cataract in the Adult Eye**, Preferred Practice Pattern 2008 review: ONE™ Network. (http://one.aao.org/CE/PracticeGuidelines/PPP.aspx)

3) Brian G, Ramke J, Szetu J, Le Mesurier R, Moran D, du Toit R. **Towards standard of outcome quality: a protocol for surgical treatment of cataract in developing countries**., Clinical and Experimental Ophthalmology 2006; **34**: 383-391, doi:10.1111/j.1442-9071.2006.1262.x

4) Vision 2020 e-resource. **Cataract Surgical Protocol** – for eye care management worldwide. (http://www.v2020eresource.org)

5) The Royal College of Ophthalmologist, **Cataract Surgery Guidelines 2010**. (http://www.rcophth.ac.uk/documents)

6) International Council of Ophthalmologist. **ICO international clinical guideline**, Cataract. Amended May 24, 2010. (http://www.icoph.org/resources)

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