Defining a Standardised Minimum Clinical Dataset for Glaucoma Procedures

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Background

- Standardised routine clinical data collection that enables national audits have furthered knowledge and helped improve outcomes in multiple ophthalmic conditions.
- The UK National Ophthalmology Database Cataract Audit has recently shown that posterior capsule rupture has reduced by 58% and vision loss by31% since the initiation of the project in 2010.
- Despite the high volumes of glaucoma procedures globally and the associated expenditure, currently no agreement exists on the data variables that should be collected to compare their outcomes.

Methods

- A set of defined clinical variables to be collected for patients undergoing any intraocular pressure lowering (IOP) procedure was developed by a RCOphth subcommittee, in collaboration with glaucoma societies in United Kingdom & Ireland (UKEGS) and Europe (EGS).
- Key principles that were adhered to in the development of these recommenations were around standardising definitions, minimising data collection burden and implementation into electronic medical records.

Results

- The following data items to be collected were agreed upon:

Essential data items
Desirable data items
Optional data items

Pre-operative

- **Glaucoma type**
- **Eye laterality**
- **Visual acuity**
- **IOP and Topical glaucoma medication number (on same date), Oral acetazolamide use**

- **Patient year of birth, Sex, Ethnicity**
- **Ocular co-pathology**
- **Previous glaucoma procedures & eye surgery**
- **IOP measurement method**

- **Refraction, Axial length**
- **Central corneal thickness**
- **Anticoagulation use**
- **Date of cataract surgery/Lens status**
- **Visual field test strategy, MD, VFI, False positives**
- **Peak IOP**
- **OCT average RNFL thickness, device used**
- **Endothelial cell count**

Intraoperative

- **Procedure date**
- **Surgeon**
- **Procedure name (+/- lens extraction)**
- **If revision surgery**
- **MMC/5FU/other anti-scarring treatment used at time of surgery**

- **Surgeon grade**
- **MMC/5FU concentration & duration**
- **Glaucoma surgery intraoperative complications**

- **Admission type**
- **Anaesthetic used**
- **Cataract surgery complications**

Post-operative (every 12 months)

- **Complications**
- **Reoperations for complications**
- **Further IOP lowering procedures**
- **Visual acuity**
- **IOP and Topical glaucoma medication number (on same date)**
- **Oral acetazolamide use**

- **Postoperative interventions**
- **IOP measurement method**

- **Visual field test strategy, MD, VFI, False positives**
- **OCT average RNFL thickness, device used**
- **Endothelial cell count**

- The full clinical dataset also defines the data type for each clinical variable and references recommended classifications and coding for glaucoma related diagnoses, procedures and postoperative complications.

Conclusions

- This dataset represents an agreed set of standardised clinical information for patients undergoing IOP lowering surgical or laser procedures
- The recommended data variables have been selected so that they can be collected from routine care across different platforms, particularly electronic medical record systems
- Adoption of this dataset could lead to a large volume of real-world data to be collated which would enable future national and international audits and research to be conducted in comparing outcomes of glaucoma procedures.

https://www.rcophth.ac.uk/standards-and-guidance/audit-and-data/clinical-data-sets/

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