Conventional routine clinical review may not be necessary after uncomplicated phacoemulsification

Bruce D S Allan, Roger M Baer, Peter Heyworth, I Graham M Duguid, John K G Dart

Abstract

Aim—To determine the clinical intervention rate during routine review after uncomplicated phacoemulsification.

Methods—A review of case notes in 651 consecutive cases of uncomplicated phacoemulsification from 1994 (<5.5 mm self sealing wound) was performed. The intervention rate at scheduled routine review visits and at unscheduled visits to the eye casualty service in the first 120 postoperative days was recorded. Interventions were defined as departures from predetermined postoperative care protocols.

Results—Clinical interventions were reported in 2.8% (95% confidence interval 1.5 to 4.1%) of (n=1652) routine follow up visits. Many of these interventions were avoidable or trivial; 90% of patients had no postoperative intervention at any visit. 7.3% of patients made unscheduled visits to the emergency service. The intervention rate in this group was 50% (35.9 to 64.1%).

Conclusions—The intervention rate in routine clinical review after uncomplicated modern cataract surgery is low. Alternatives to conventional postoperative review, including shared care with non-ophthalmologists and improved perioperative patient education with an open channel for self referral, should be evaluated.

Conventional routine clinical review may not be necessary after uncomplicated phacoemulsification

Results

A record of at least two routine follow up visits was available in over 96% of the total number (n = 815) of cases identified from theatre records. After exclusions, 651 uncomplicated cases of phacoemulsification (mean age 68.5 years, range 19–99, SD = 14, female:male 1.3) were studied further. Almost all cases were age-related cataracts including a full spectrum of different nucleus densities. The population characteristics (age and sex ratio) were similar among the study sample and patients excluded from the study.

Clinical interventions were reported in 2.8% (95% confidence limits 1.5 to 4.1%) of (n=1652) routine follow up visits (Table 1); 7.3% of patients (n=48) made unscheduled visits to the emergency service. The intervention rate in this group was 50% (35.9 to 64.1%) (Table 2); 93.5% of patients (n=609) had no intervention during routine follow up, and 90% of patients (n=587) had no postoperative intervention in either the emergency service or at scheduled review visits. Three cases (<0.5%) had a best corrected visual acuity less than 6/12 at the last review. There were no wound related complications and no cases of endophthalmitis.

Discussion

The timing of the development of serious postoperative complications after cataract surgery cannot be predicted with any accuracy. Retinal detachment may present over a year after surgery. Similarly, endophthalmitis may occur late in the postoperative period, with a significant proportion of cases presenting outside the first postoperative week. It is, therefore, virtually impossible to plan an economically viable schedule for postoperative review designed to detect serious complications at a presymptomatic stage. Many of the patients whose treatment was modified at visits 2 and 3 had already been symptomatic for a variable period. Patients may actually wait for a scheduled routine review visit rather than presenting early with a significant symptomatic problem. In contrast with the low rate of clinical intervention at routine review, the intervention rate in patients presenting to the eye casualty service between scheduled visits was 50%. A more realistic approach may be to base routine follow up protocols on the detection of treatable, asymptomatic complications, with an open channel for immediate self-referral where symptomatic problems develop.

The only common silent complication of uncomplicated sutureless phacoemulsification is raised intraocular pressure. Untreated pressure elevations may cause irreversible optic nerve damage. Intraocular pressure may rise temporarily in the immediate postoperative period, or later as a side effect of topical steroid medication. Prophylactic short term topical hypotensive medication has been shown to be effective in guarding against early pressure spikes, and in our study it may alone reducing by one drop per day per week over the succeeding 4 weeks.

Table 1 Clinical interventions at routine review

| 1st review: | (100% of patients; day 0–17; day 1–83%) |
| Raised IOP | Ocular hypotensive medication | 15 |
| Uveitis | Increased topical steroid medication | 6 |
| 2nd review: | (100% of patients; average 17 (SD 6.1) days postop) |
| Raised IOP | Ocular hypotensive medication | 5 |
| Uveitis | Increased topical steroid medication | 2 |
| Incidental pathology | Referral to another specialty service | 5 |
| Blepharitis | Lid hygiene instruction | 5 |
| CMO | Orbital floor steroid injection | 1 |
| 3rd review: | (48% of patients; average 53 (SD 20.7) days postop) |
| Uveitis | Topical steroid medication restarted | 2 |
| Capsular opacification | YAG capsulotomy | 4 |
| Lens material in AC | Lens material removed in theatre | 1 |
| Incidental pathology | Referral to another specialty service | 4 |
| Total interventions in 1652 visits | 46 |

Clinical interventions were defined as any departure from predetermined routine postoperative management protocols. Uveitis = intraocular inflammation greater than expected for the stage in the postoperative course. CMO = cystoid macular oedema. AC = anterior chamber. Incidental pathology refers to the diagnosis of ocular pathology unrelated to cataract surgery.

Table 2 Clinical interventions in the eye casualty service

| Uveitis | Topical steroid medication increased | 13 |
| Blepharitis | Lid hygiene instruction/tetracycline | 5 |
| Conjunctivitis | Antibiotic medication restarted | 2 |
| Retinal detachment | Referral to vitreoretinal service | 2 |
| Wound site inflammation | Topical steroid medication restarted | 1 |
| Incidental pathology | Referral to specialty service | 1 |
| Total interventions in 48 visits | 24 |

Half of the patients (total = 48) presenting to the casualty service required advice and reassurance only after examination and no active therapeutic or investigational intervention. Definitions for interventions in the remaining cases are as for Table 1.

Figure 1 Relative proportions of different self sealing wound types used. Wound construction was determined by lens type and surgical preference. Rigid all polymethylmethacrylate 5 × 6 mm (5.5 mm wounds—MZ 60 BD, Iolab, UK) and foldable silicone (4 mm wounds—L141U, Iolab, UK) lenses were used.
have been possible to avoid up to one third (n=15) of all the interventions recorded in routine review if ocular hypotensive prophylaxis had been prescribed in all cases. It may also be possible to circumvent the problem of steroid induced intraocular pressure rises. Recent evidence suggests that topical non-steroidal anti-inflammatory drugs may be as effective as steroids in suppressing inflammation after cataract surgery.18 19 Where topical steroids are used, early refractive stability after sutureless phacoemulsification20 21 should allow screening for a steroid induced pressure rise to be combined with postoperative refraction, at 2–3 weeks after surgery. Whether or not this combined refraction and intraoperative pressure examination would need to be performed by an ophthalmologist is a matter for debate.22 23

Moorefield’s Eye Hospital is a postgraduate teaching hospital with a large primary referral base from which the vast majority of patients included for study were drawn. In the context of an intervention rate study in routine clinical follow up, the retrospective design used here may well provide a better reflection of reality in clinical practice than prospective studies in which decisions about intervention may be influenced by investigator bias. A very high rate of data retrieval was achieved. Errors of omission or variable definition should have been minimal since the main outcome measure (intervention rate) simply requires that some record was made in the notes (not necessarily an accurate one) of any therapeutic intervention. A similarly low intervention rate (3%) has recently been reported in a smaller scale prospective study examining the value of routine review on day 1 after phacoemulsification.14

This study focuses on uncomplicated sutureless phacoemulsification, and does not address other techniques of cataract extraction or the review requirements for complicated cases. Within these confines, the striking finding was the number of review visits (≥95%) at which nothing was achieved beyond perhaps mutual reassurance. Clearly, reassurance is important, but prioritisation is becoming increasingly necessary in many healthcare settings, and screening patients with a low yield of complications may become difficult to justify,24 particularly where time could be freed for decision making in more complex cases. Alternatives to conventional postoperative review, including shared care with non-ophthalmologists and improved perioperative patient education with an open channel for self referral, should be evaluated.

We would like to acknowledge the help of Mr S J Tuft and Mr A D G Steele who allowed the study group to include patients operated on under their care.

Conventional routine clinical review may not be necessary after uncomplicated phacoemulsification

Bruce D S Allan, Roger M Baer, Peter Heyworth, I Graham M Duguid and John K G Dart

doi: 10.1136/bjo.81.7.548

Updated information and services can be found at:
http://bjo.bmj.com/content/81/7/548

These include:

References
This article cites 20 articles, 5 of which you can access for free at:
http://bjo.bmj.com/content/81/7/548#BIBL

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Topic Collections
Articles on similar topics can be found in the following collections
Ophthalmologic surgical procedures (1223)
Lens and zonules (807)

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/