

Optimisation of outpatient resource utilisation in cataract management

S. PRASAD, V. TANNER, C.K. PATEL,
P. ROSEN

Abstract

Purpose We assessed whether patients referred with a diagnosis of cataract require outpatient assessment before listing for surgery or whether the general practitioner could have direct access to the waiting list. We also studied whether pre-assessment clinics made a significant difference to management even when waiting times were long.

Methods Data about patients referred with a diagnosis of cataract to the Oxford Eye Hospital and associated hospitals were collected. Seventy-five patients were prospectively studied and 100 patient records were retrospectively analysed.

Results Twenty-six per cent of patients had a misdiagnosis or additional problems affecting management. Optometrists provided more information than general practitioners, but their diagnostic accuracy was equal (73% optometrists, 75% general practitioners). At the pre-assessment clinic pupil dilatation changed management in only 4% of patients.

Conclusion Listing patients on the basis of referral letters would be inappropriate in 1 in 4 patients. Pre-assessment clinics rarely picked up a clinically relevant change. Thus if outpatient consultation included a decision on the exact surgical plan including implant power, then pre-assessment clinics may not be necessary.

Key words Cataract, Outpatient organisation, Pre-assessment, Referral

It is generally accepted that the main reason for the cataract backlog is limited operating sessions and surgical throughput. Imbalance in, and inefficient use of, resources also contributes to this backlog.¹ The requirement for cataract surgery is set to increase as more uncovered disease² is diagnosed and the proportion of elderly people in the population increases. Increasing use of modern small-incision cataract surgery techniques has increased the turnover in operating theatres and reduced the demand on medical time for the follow-up of post-operative cataract patients. Surgery is

increasingly done on an outpatient basis with good outcomes.³ Co-management of the post-operative care after cataract surgery has further reduced the demands on the time of medical staff and has increased efficiency.⁴ Increasing the efficiency with which new referrals with the diagnosis of cataract are handled can streamline outpatient management, leading to further savings in time and costs and freeing medical manpower for other tasks.

The present practice in our unit is that patients referred with a diagnosis of cataract go through the steps outlined in Fig. 1 before they have their surgery. We reviewed this process to provide information that would help to organise the service in a more efficient and streamlined manner. In particular we tried to assess whether all patients referred with a diagnosis of cataract need to be examined before being placed on the waiting list for cataract surgery or whether listing them on the basis of the referral letter was appropriate. Other objectives were to evaluate whether the pre-assessment clinic visit made a difference to the medical and surgical management and whether a 'one-stop' assessment and operation would be feasible.

Method

The study involved two phases. Phase 1 was a retrospective review from case notes of 100 consecutive patients referred with a diagnosis of cataract to a single consultant's (P.R.) firm from 1 April 1995. Phase 2 was a prospective study of 75 consecutive patients referred with the diagnosis of cataract to the same firm from September 1996.

A large number of referrals are initiated by opticians,⁵ whilst others are initiated by the patient's general practitioner (GP). Information provided on the initial referral letter was collected and analysed. Changes in management plan at the pre-assessment clinic were also recorded.

S. Prasad
V. Tanner
C.K. Patel
P. Rosen
Oxford Eye Hospital
Radcliffe Infirmary
Oxford OX2 6HE, UK
S. Prasad ✉
Arrowe Park Hospital
Arrowe Park Road
Wirral
Merseyside L49 5PE, UK

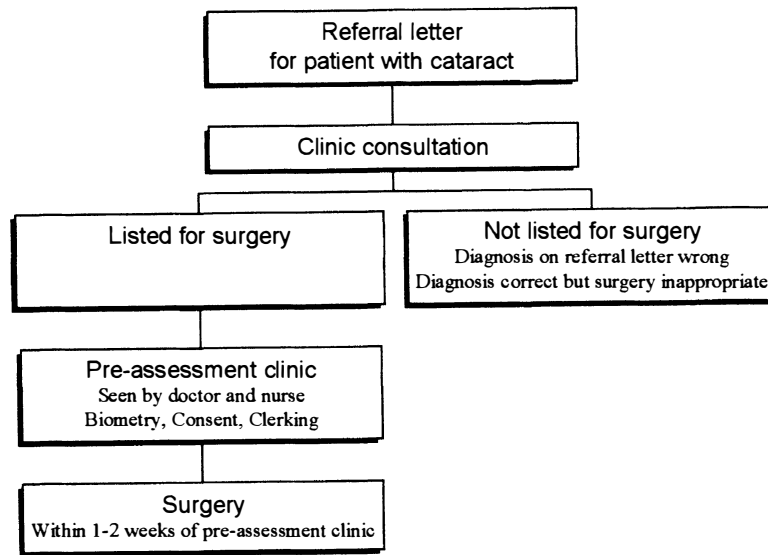


Fig. 1. Flow diagram showing present scheme of management of patients referred with a diagnosis of cataract.

Data collection

Data were collected and recorded on a data collection sheet in both phases of the study (Fig. 2).

Results

The results of the review of referral letters and outpatient consultation are set out in Table 1. On combining the

CATARACT REFERRAL AND PRE-ASSESSMENT STUDY		
Patient Sticker / ID		
1. Referral and clinic consultation		
Referral initiated by	GP	Optician (through GP)
Diagnosis of cataract	Correct / Incorrect	Correct / Incorrect
Diagnosis correct but not requiring surgery		
Additional problems recorded at outpatient clinic (but not mentioned in referral letter)	<ul style="list-style-type: none"> • Glaucoma • Diabetic • BP • Other... 	<ul style="list-style-type: none"> • Glaucoma • Diabetic • BP • Other...
Further Ophthalmic information provided by referrer	<ul style="list-style-type: none"> • VA • IOP • Fundus • Dilated • Other... 	<ul style="list-style-type: none"> • VA • IOP • Fundus • Dilated • Other...
2. Pre-assessment clinic		
Operation cancelled or postponed	YES	NO
If YES,	Inappropriate listing	Further intervention needed before surgery
If YES, could the problem have been picked up at initial (out patient) consultation	YES	NO
Management plan altered as a result of pupil dilatation at this stage	YES	NO

Fig. 2. Data collection sheet used in the study.

Table 1. Results from assessment letters and outpatient clinic consultation

	Phase 1 (n = 100)		Phase 2 (n = 75)	
	GP (n = 38)	Optician (n = 62)	GP (n = 27)	Optician (n = 48)
Diagnosis correct	32 (84%)	52 (84%)	23 (85%)	41 (85%)
Diagnosis correct but surgery inappropriate	3 (8%)	8 (13%)	2 (7%)	7 (15%)
Additional problems noted at OPD ^a	Glaucoma 2 Diabetes 2 Others 3 ^b	Glaucoma 1 Others 8 ^c	Glaucoma 1 Diabetic 1 Others 1 ^d	Glaucoma 1 Others 4 ^e
Further information provided	VA 4 (10%) IOP 0 Fundus 0 Dilated 0 Fields 0	VA 60 (97%) IOP 37 (60%) Fundus 33 (53%) Dilated 5 (8%) Fields 13 (21%)	VA 2 (7%) IOP 0 Fundus 0 Dilated 0 Fields 0	VA 47 (98%) IOP 30 (63%) Fundus 29 (60%) Dilated 5 (10%) Fields 7 (15%)

BRVO, branch retinal vein occlusion; CRVO, central retinal vein occlusion; ARMD, age-related macular degeneration; VA, visual acuity; IOP, intraocular pressure.

^aBlood pressure was not recorded at the outpatient consultation.

^bConsisting of one patient each with a pterygium, BRVO and ARMD.

^cConsisting of two patients each with BRVO, blepharitis and ARMD and one patient with a choroidal naevus.

^dARMD.

^eConsisting of one patient each with BRVO and blepharitis and two patients with ARMD.

results of both phases of the study GPs were found to make the diagnosis correctly in 83% (54/65) of cases referred with the diagnosis of cataract. For optician-initiated referrals 85% (93/110) had the correct diagnosis. However, on excluding the cases in which, at outpatient consultation, surgery was deemed not to be required or inappropriate, the figure falls to 75% (49/65) for GP-initiated referrals and 73% (80/110) of optician-initiated referrals. This indicates that 26% (46/175) of new patients, referred with a diagnosis of cataract, were not placed on the cataract surgery waiting list at their initial outpatient consultation. Additional ocular problems were picked up in 14% (24/175).

Opticians tend to provide more information than GPs when initiating referrals. Visual acuities were mentioned in 97% of cases by opticians but only 9% of cases by general practitioners. Opticians also provided information on intraocular pressures (61%), fundi (56%) and fields (18%). GPs tended not to provide additional ophthalmic information.

Table 2 gives the results of the review of the pre-assessment clinic. Twelve per cent (18/110) of patients had their operation cancelled or postponed at the pre-assessment clinic. The main cause for this was uncontrolled hypertension (67%, 12/18). The other causes for cancellation of surgery could all have been picked up at the initial outpatient consultation, although progression of the condition from initial consultation to pre-assessment clinic visit could not be ruled out. If the

patient did not report a change in symptoms over this time period we presumed that no progression of pathology had taken place. All other causes for postponement or cancellation of surgery at the pre-assessment clinic comprised 5% of the patients attending for pre-assessment. Pupil dilatation at the pre-assessment clinic changed the management plan in 4% (4/110) of patients only.

Discussion

Rapid changes are occurring in healthcare today. Healthcare organisations are being prompted to explore and implement systems that will enhance quality of care as well as promoting cost-effective resource utilisation.⁶ Day case surgery⁷ and co-managed post-operative care⁴ have rationalised resource utilisation during and after surgery. Further increases in efficiency will result from improving referral patterns and pre-assessment.

The review of referral letters and outpatient consultation shows that the diagnostic accuracy of opticians and GPs for cataracts is approximately equal. Seventy-three per cent of referrals initiated by opticians and 75% of those initiated by GPs were listed for cataract surgery at their initial outpatient consultation. Overall 25% of patients referred by GPs and 27% of those patients whose referral was initiated by opticians would benefit from outpatient consultation prior to listing. Opticians tend to obtain and pass on more information

Table 2. Results from the pre-assessment clinic

	Phase 1 (n = 96)	Phase 2 (n = 54)
Operation cancelled or postponed	12 (13%)	6 (11%)
Inappropriate listing	3 (1 BRVO, 2 ARMD)	1 (ARMD)
Further intervention	9 (7 BP, 2 blepharitis)	5 (BP)
Reason should have been picked up at outpatient consultation	All (? except 2 blepharitis)	All
Management altered as a result of pupil dilatation at this stage	3 (1 BRVO, 2 ARMD)	1 (BRVO)

Note: Numbers are smaller than in Table 1 in both phases as some patients who had had their outpatient consultation had not come to the pre-assessment clinic by the end of the study.

BRVO, branch retinal vein occlusion; ARMD, age-related macular degeneration; BP, high blood pressure.

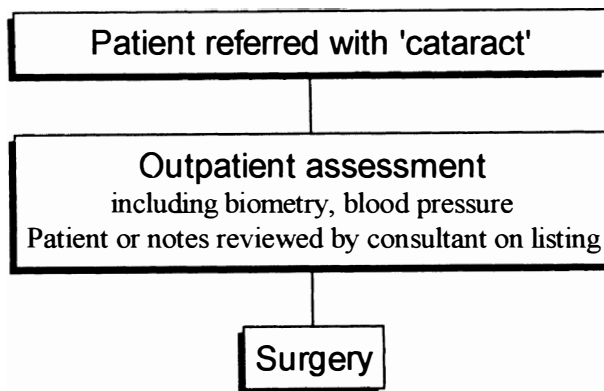


Fig. 3. Proposed scheme of management of patients with a diagnosis of cataract.

about the patient's ophthalmic condition, but this does not seem to improve their overall diagnostic accuracy. As 1 in 4 patients referred with a diagnosis of cataract do not go on to surgery at that episode, a one-stop assessment and operation would not be viable.

It has been shown that a large proportion of optometrists inform their patients about cataract and its management.⁸ GPs' awareness about cataract surgery techniques tends to vary.⁹ The diagnostic accuracy of the referrer would have to be improved before a 'one-stop' assessment and operation became feasible or they could be allowed direct access to the waiting list. Other issues that need to be considered before allowing GPs direct access to waiting lists include a loss of control and possible revenue implications.

The commonest problem for postponement of surgery at the pre-assessment clinic was uncontrolled hypertension. This clinic made a difference to the management of only 5% of patients if uncontrolled hypertension was excluded. Dilating pupils at the pre-assessment clinic affected the management of 4% of patients only. Checking the blood pressure of all new referrals at their initial consultation and application of more stringent criteria for listing can increase the usefulness of this consultation. This would avoid inappropriate listing. If the initial consultation were to include biometry and decision on implant power, pre-assessment clinics would have little to add to patient management. Currently, only 20% of cataracts are done on a day-case basis in our unit. This is mainly due to

social and transport problems. It is reasonable to assume that similar problems apply to visiting the hospital for pre-assessment. Patients seem to like pre-assessment clinics as they give them an opportunity to get more information about the procedure. This can be addressed in other ways, such as providing a video of relevant information supplemented by a postal questionnaire or a phone call by the pre-assessment nurse to confirm social circumstances. Eliminating the need for pre-assessment clinics would lead to savings in patient time, reduced inconvenience, a cut in transport costs and a freeing of medical manpower.

Conclusion

An improved scheme of organising outpatient services for cataract patients is shown in Fig. 3. This would result in more efficient utilisation of resources and streamline patient turnover, resulting in savings in terms of time, patient inconvenience and demands on the time of medical staff.

References

1. Drummond MF, Yates JM. Clearing the cataract backlog in a (not so) developing country. *Eye* 1991;5:481-6.
2. Wormald RP, Wright LA, Courtney P, Beumont B, Haines AP. Visual problems in the elderly population and implications for services. *BMJ* 1992;304:1226-9.
3. Olsen T, Bargum R. Outcome monitoring in cataract surgery. *Acta Ophthalmol Scand* 1995;73:433-7.
4. Revicki DA, Brown RE, Adler MA. Patient outcomes with co-managed post-operative care after cataract surgery. *J Clin Epidemiol* 1993;46:5-15.
5. Port MJ, Pope CA. Referrals and notifications by British optometrists. *Ophthalmic Physiol Optics* 1988;8:323-6.
6. MacKenzie M, Waterman M. Utilization of a clinical pathway in the care of the ambulatory cataract surgical patient. *Insight* 1995;20:6-11.
7. Hylka SC. Comparative cost analysis of surgical procedures in an ambulatory eye center. *Nursing Econ* 1994;12:51-5.
8. Bezan D. Management of patients with age-related cataracts: a survey of Oklahoma optometrists. *J Am Opt Assoc* 1987;58:100-4.
9. Potamitis T, Fouladi M, Aggarwal RK, Jones HS, Fielder AR. General practitioners' awareness of different techniques of cataract surgery: implications for quality of care. *BMJ* 1994;308:1334-5.