

Ambulatory cataract surgery: the patients' perceptions

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There has been a slower uptake of ambulatory cataract surgery in the UK than the USA. We believe the primary aim of ambulatory cataract surgery is improved patient care. This prospective study assessed the perceptions and individual characteristics of patients undergoing ambulatory cataract surgery. This study demonstrates that 97.7% of patients undergoing ambulatory cataract surgery recommend this procedure as the treatment of choice. We conclude that ambulatory cataract surgery has many benefits, has a high level of patient satisfaction, and is suitable for the majority of patients.

Key words: Ambulatory cataract surgery, day-case cataract surgery

The widespread uptake of ambulatory cataract surgery in the UK has not come to fruition. Presently only 8% of elective cataract extractions are performed on an ambulatory basis. In the USA more than ten times this many ambulatory cataract procedures are performed¹. Indeed, this was predicted a decade ago when the Commission on the Provision of Surgical Services published its guidelines on day-case surgery, predicting the widespread uptake of day-case intraocular surgery to be unlikely in the near future^{2,3}.

This prospective study was designed to look at patients' overall perceptions of ambulatory cataract surgery, as well as the factors which might influence their perceptions. In doing so, we may be able to improve the care to our patients, and add weight to the argument that we should be doing more ambulatory cataract surgery⁴. This would be on the basis of our patients' perceptions of ambulatory cataract surgery, rather than purely on the cost benefits of this method of treatment.

Patients and methods

This study took place in the Day Surgery Unit (DSU) at The Birmingham and Midland Eye Hospital. At the time of the study there was no dedicated operating theatre and the adjacent theatre suite was used for ambulatory patients.

For a 6-month period, 135 consecutive ambulatory cataract surgery patients were enrolled into the study, under the care of seven consultant ophthalmologists. Patients were enrolled on the day of surgery. This was within 1 month of their preoperative assessment clinic, where a full explanation of ambulatory surgery was given and informed consent obtained. Common to all patients was a mandatory first dressing the morning after surgery. Preoperative assessment and first dressings took place in the Day Surgery Unit. The presence of a travelling escort, if patients were not using hospital transport, and someone present at their home on the first night after surgery, were considered prerequisites for selection to the ambulatory cataract surgery programme.

Local anaesthesia and surgery was performed by both consultant and junior doctors, and this forms part of the ongoing surgical training within the hospital. Data collection was centred around the patients' overall perceptions, in addition to factors which might influence these, before, during and after surgery. This was achieved by combining prospective data with that from a postal questionnaire.

Prospective data collection

The following were recorded: time of arrival; distance travelled; method of transport; surgeon; type of anaesthetic; complications pre, per- and postoperatively; number of patients requiring earlier follow up than expected and the reasons for this; final visual acuity and refraction; reasons for aborted ambulatory surgery and previous history of inpatient ophthalmic surgery, and whether this was under local or general anaesthesia.

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Table 1. Previous experience of cataract surgery

| | First eye | Second eye | |
|-------|-----------|-------------|----|
| | 97 | Previous LA | 4 |
| | | Previous GA | 28 |
| Total | 97 | | 32 |

LA, Local anaesthesia; GA general anaesthesia.

Table 2. Details of three patients who would not recommend ambulatory cataract surgery

| | Patient 1 | Patient 2 | Patient 3 |
|--|-----------|-----------|-----------|
| Previous inpatient surgery | yes | no | no |
| Sounds in theatre | yes | no | no |
| Pain during surgery | yes | yes | no |
| Understood procedure after preoperative clinic | yes | no | yes |
| Cost of taxi | no | no | yes |

Anonymous postal questionnaire

Data collection was designed to cover the aspects of ambulatory surgery which could influence the patients' perceptions of this mode of treatment. Particular care was given to a covering letter which explained that the questionnaire was anonymous and could in no way influence their future care. The structured questions related to pain, light discomfort during surgery, noise during surgery, and finally whether they would recommend this form of treatment. Each reply was then matched to the corresponding prospective data sheet and rendered anonymous prior to insertion into the database.

Results

In the 6 months 135 consecutive ambulatory cataract patients were studied. Six patients failed to return their questionnaire or were lost to follow up and were excluded, leaving 129 patients; 60 male and 69 female.

The two main groups of patients were those who had experienced previous inpatient surgery, and those for whom this was 'first eye' surgery. Patients who had undergone previous intraocular surgery as inpatients numbered 32; four under local anaesthesia (LA) and 28 under general anaesthesia (GA). Patients in the 'first eye' group numbered 97 (Table 1).

The key question was, would patients recommend ambulatory surgery. From 129 responses, 126 confirmed they would recommend ambulatory cataract surgery. The three patients who would not recommend ambulatory cataract surgery are considered in Table 2. These three patients all gave different reasons, and only one had experienced previous inpatient surgery. All three had uncomplicated surgery, routine follow up and final corrected visual acuity of 6/9 or better.

Table 3. Transport arrangements

| Method | No. of patients | % |
|-------------------------|-----------------|-----|
| Friend or relatives car | 75 | 58 |
| Taxi | 18 | 14 |
| Public transport | 16 | 13 |
| Hospital car | 17 | 13 |
| Ambulance | 3 | 2 |
| Total | 129 | 100 |

Influential factors

The remainder of the data base provided us with information which could influence overall perceptions, and could also be audited to improve patient care. These factors were: visual acuity; distance from home to the hospital; methods of transport; time of arrival; a good preoperative explanation of what their treatment involved; pain during the procedure and the influence of previous ophthalmic surgery on their overall perceptions of ambulatory cataract surgery.

Transport arrangements covered in Table 3, showed that only 20 patients (15%) required hospital transport: 17 (13%) in the form of a car, and three (2%) an ambulance. Patients were recommended not to use public transport. The remaining 109 patients (85%) made their own way to the hospital with the help of their escorts.

On the day of surgery 122 patients (94.6%) arrived at the designated time. No patients were late for afternoon surgery. Of the seven (5.4%) who arrived late for the morning sessions, six (4.7%) came within 30 min of the scheduled arrival time of 08.00 h, and one (0.8%) arrived at 09.45 h. The distances travelled ranged from 1–22 miles (mean 5.2), and there was no correlation between type of transport or distance travelled, and either late arrival or poor perceptions.

One hundred and twenty-eight patients (99.2%) felt they did understand the treatment following the preoperative assessment clinic and their expectations matched the reality of events on operation day. The one patient who did not understand felt that this, combined with pain at the end of the operation, left her unable to recommend ambulatory cataract surgery.

Final visual acuity of 6/9 or better was achieved in 114 patients (88.4%), with 15 (11.6%) achieving 6/12 or worse. This did not correlate with poor perceptions.

Sounds in the operating theatre disturbed seven patients (5.4%). Surgeons talking disturbed four patients, music one patient, and other people's voices or background noise two patients.

From the total of 129 patients, 128 (99.2%) had local anaesthesia (LA) and one (0.8%) had general anaesthesia (GA) with a laryngeal mask. In the LA group, 94 (73.4%) had peribulbars and 34 (26.6%) had retrobulbars. There were no significant differences in pain during surgery between the peribulbar and retrobulbar groups in this series: mild discomfort was reported by three patients (3.2%) in the peribulbar group, and one (2.9%)

Table 4. Method of anaesthesia employed in ambulatory cataract surgery patients

| <i>General anaesthesia</i> | | <i>Local anaesthesia</i> | |
|----------------------------|---|--------------------------|-----|
| Laryngeal mask | 1 | Peribulbar | 94 |
| | | Retrobulbar | 34 |
| Total | 1 | | 128 |

in the retrobulbar group. Perioperative sedation was not used (Table 4).

Peroperative complications occurred in three patients (2.5%). Two posterior capsular ruptures with vitreous loss rendered one patient aphakic, the other having primary insertion of an anterior chamber lens (ACL). The aphakic patient subsequently returned for insertion of secondary ACL. The third patient had persistent anterior chamber haemorrhage from underneath the wound and was the only patient to be kept in for overnight observation. All of these patients recommended ambulatory surgery.

Nine patients (7%) were given early outpatient appointments, eight (6.2%) with raised intraocular pressure and one with a wound leak. None of these patients required any further intervention, but one additional patient required surgery for an iris prolapse, diagnosed at the first outpatient visit.

Discussion

Three separate but related issues must be considered before ambulatory cataract surgery becomes more commonly favoured in the UK.

First, comparative studies report no difference in visual outcome or complication rates between inpatients and ambulatory patients^{5,6}. We are also unaware of any reports of surgeons reverting from ambulatory cataract surgery back to inpatient surgery⁷.

The second issue to be considered is cost. With an ageing population and a lower threshold for surgical intervention, we can expect an increase in the demand for cataract surgery⁸. Some authors have quoted a 60–80% increase in the expected number of cataract extractions over the last two decades of this century⁹. These epidemiological facts, within the framework of the National Health Service, will mean correspondingly increased financial requirements, tied to a more slowly expanding fiscal policy. If the financial benefits of ambulatory surgery are to be realized, it must be supported by greater numbers of medical staff, an adequate infrastructure and new dedicated day surgery units with the necessary capital investment to support all these factors. A more conservative approach, failing to address such factors adequately, will not give sufficient savings over traditional inpatient surgery, and these points are well recognized^{3,10}. With proper dedicated facilities for ambulatory surgery savings of 30–50% have been estimated¹¹.

Third, if we are to get support for ambulatory surgery, we must examine the perceptions of those who have experienced this form of treatment. It would be difficult

to raise support for any expansion in ambulatory cataract surgery if our patients regarded it as an inferior form of treatment.

This study was aimed at assessing the perceptions of those patients who had been selected for ambulatory surgery. Comparative analysis between the perceptions of inpatients and ambulatory patients is difficult to quantify objectively and was not the aim of this study. Previous work has shown satisfaction to be similar between these two groups¹². Also included within our series was a subset of 32 patients who were able to make a direct comparison from their own previous experiences of inpatient ophthalmic surgery (see Table 1).

The response rate to the questionnaire was both rapid and impressive (95.6%). The answer to the core response of whether or not they would recommend ambulatory cataract surgery showed overwhelming support for this method of treatment (97.7%). The three patients (2.3%) not recommending ambulatory cataract surgery gave a variety of reasons for not doing so (see Table 2). Patients 1 and 2 were female and patient 3 was male. All had good visual outcomes at 6/9 or better, all had local anaesthesia, and only patient 1 had experienced inpatient surgery under general anaesthesia. Patient 3 had only been concerned about the cost of the transport, and had travelled by taxi to and from the hospital. The other two patients gave more complex reasons for not recommending ambulatory cataract surgery. Patient 1 experienced pain during the procedure and would have preferred a general anaesthetic. She was also disturbed by active teaching during her operation. These points should be borne in mind as it is important what is said during all surgery under local anaesthetic. Clearly it was the type of anaesthetic rather than the ambulatory nature of the procedure that was her main concern. It is important to consider the patients' requirements individually and ambulatory surgery under general anaesthetic is safe and may be preferable in certain patients¹³. Pain was also a factor with patient 2, as was poor understanding after the preoperative assessment clinic. These clinics are prerequisite for patient selection, anaesthetic choice, and the building of patient confidence and expectations of what their treatment, follow up, and outcome will be. Protected time for assessment, explanations and informed consent by senior medical and nursing staff helps with accurate selection, and boosts patient confidence in their chosen mode of treatment.

Our study supported earlier authors findings that age, sex, transport methods and distance travelled did not influence either their late arrival for ambulatory cataract surgery, or their overall perceptions¹⁴. It is also interesting that final visual acuity did not influence the overall perceptions of patients.

Ambulatory cataract surgery has many advantages including reduced risk of exposure to hospital-borne infections, maintenance of mobility in the elderly, minimal separation from family and friends and decreased interruption from daily routines including special diets and medications¹⁵. Combining these with the similar complications rates, increased demand overtaking

monetary supply and approval from our patients, as discussed above, we believe ambulatory cataract surgery to be the treatment of choice.

We also believe that the majority of patients are suitable for ambulatory surgery and the patients in our study clearly perceived it as a treatment worth recommending.

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