

Influences on Anaesthetic Choice in Cataract Surgery

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Abstract

Purpose: To identify the barriers to increasing usage of local anaesthesia (LA) in cataract surgery by examining the perspectives of a cohort of patients who selected general anaesthesia (GA).

Setting: All patients underwent cataract surgery in 2011 at a tertiary referral centre, The Newcastle Eye Centre.

Design: Retrospective purpose built questionnaire study.

Methods: A sample of 25 patients who underwent cataract surgery under GA without clinical contraindications to LA was identified from a previous study and the questionnaire was distributed by post. Quantitative and qualitative analyses were performed on the completed questionnaires.

Results: A total of 13 completed questionnaires were received (response rate 52%); the mean respondent age was 56, 8 were female. All participants cited anxiety as their reason for choosing GA, with a particular focus on fear of awareness of sharps near their eye. A majority of participants felt that in cataract surgery LA was associated with greater discomfort than GA (6 vs 0), that GA was less challenging for the surgeon (7 vs 2) and that they were pressured into choosing LA rather than GA (3 vs 0).

Conclusion: The only non-clinical contraindication for LA cataract surgery in this sample was anxiety. These concerns are firmly rooted and clinicians must guard against pressuring patients towards a choice of GA for their operation despite their anxiety. Patient information should target the relative risks of GA and LA and also what sensory experiences the patient can expect intra-operatively.

Keywords: Cataract; Anaesthesia; Qualitative Research

Introduction

Cataract extraction is one of the most commonly performed operations by the NHS with nearly 290,000 at a cost of £250 million taking place in England alone in the financial year of 2012-2013 [1]. 97% of these were performed using phacoemulsification, a technique which accounted for a minority of cataract operations as recently as the 1990s [1,2]. The rise in popularity of phacoemulsification has been accompanied by an increased prevalence of local anaesthesia (LA) to facilitate cataract extraction with a reciprocal drop in general anaesthesia (GA) usage (Figure 1).

From limited national data, the GA rate in UK cataract surgery appears to have been stable over the last decade at around 4% (Figure 1). However, further change in GA usage is possible as demonstrated by the GA rate of 1.4% described by Eke., *et al.* [3] in a unit performing around 5,000 cataract operations per annum and a rate of 0.8% described by Syam., *et al.* [4] from a smaller unit [2,5]. Local data from our institution in 2011 found that of the 2.9% of cataract operations which were facilitated by GA, 63% had no clinical contraindications to LA and the patients selected GA out of preference (Table 1) [6]. This raises the question of what factors lead patients to choose GA for their cataract operation and thus maintain the presently observed balance between local and general anaesthesia in the UK cataract service.

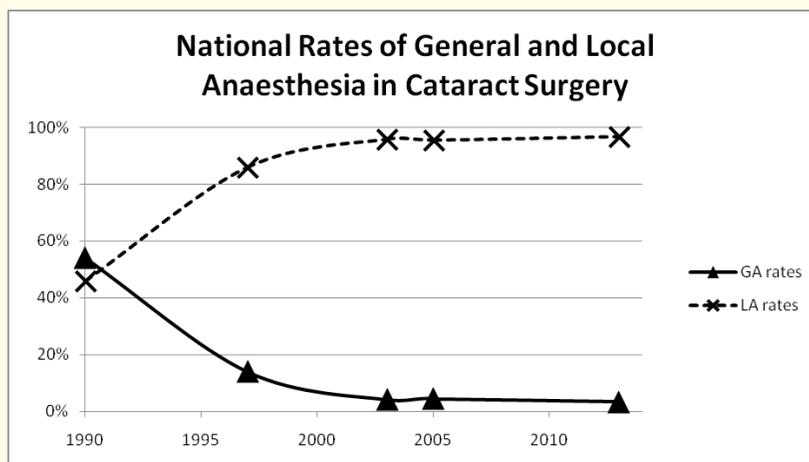


Figure 1: Data collected from UK national surveys of varying sizes showing drop in GA rates 1990-2013.2-4.

1. Patient refusal after careful counselling.
2. Local sepsis.
3. Trauma or perforated globe.
4. Grossly abnormal coagulation.
5. Severe reaction, allergy or other complication of LA.
6. Confusion, inability to communicate or to comply with instructions.
7. Uncontrolled tremor.
8. Inability to adopt acceptable positioning.

Table 1: Contraindications to LA in ophthalmic surgery stated in the 2012 joint guidance from the Royal Colleges of Ophthalmologists and Anaesthetists.

By elucidating the thoughts of patients who chose GA for their cataract surgery for none clinical reasons this questionnaire study aims to offer a perspective not yet represented in the literature. The aim of this study is to find themes that divert patient choice away from LA and to identify areas needing to be addressed within the joint decision making process in cataract surgery.

Methods

A previous appraisal of the cataract service throughout the calendar year of 2011 at the Newcastle Eye centre had suggested that 1.8% of the 8566 cataract operations performed that year were done under GA with no known clinical contraindication to LA [6]. A sample of 25 patients from this group were randomly selected and had a questionnaire, study explanation, consent form and return envelope delivered to them by post. It was explained that if they did not respond to decline participation or return a questionnaire then telephone contact would be made. During these telephone calls, made by the same researcher, the study would be explained again, consent sought and then the questionnaire read out and completed over the telephone. The questionnaire was designed for this study and reviewed within the Newcastle Eye Centre. The questionnaire aimed to examine the participants' perceptions of the impact of anaesthetic choice on the experience of cataract surgery and was mainly comprised of questions with a choice of 2 or 3 answers with some blank space questions to develop depth in certain areas.

Statement of Ethics

The methodology was approved by an NHS Health Research Authority National Research Ethics Service Committee under proportionate review. Informed consent was received from each participant and data was pseudo-anonymised and analysed on password protected computers.

Results

Of 25 patients identified from 2011 theatre lists, 17 remained contactable in 2013. 3 further patients declined to participate and it became apparent that 1 of the remaining patients had their operation in 2011 under LA. This left 13 participants, 7 of whom completed the questionnaire by post whilst 6 completed the questionnaire over the phone, giving a response rate of 52%. All 13 of these participants were confirmed to have had cataract surgery in 2011 under GA and as having no medical contraindications to LA. There were 5 male and 8 female participants with a mean age of 56 at the time of operating.

The first part of the questionnaire dealt with the participants' perceptions of cataract surgery which may have guided their choice of anaesthesia. The reasons given for opting for GA were all related to fear. 3 of the patients described general fear of the operation with no particular detail. 4 participants specifically referenced anxiety about being awake during the operation, 2 went further to express concerns about "seeing what is going on" and 1 participant was off put by the idea of hearing conversations in the theatre, using explanations to medical students as an example. Fear of a needle approaching the eye was stated as the reason for choosing GA by 3 participants and 1 participant opted for GA because of a previous bad experience with anaesthesia. None of the participants felt the visual outcome of the operation depended upon the decision to have LA or GA, though some perceived an anaesthesia dependent difference in risk, comfort and difficulty for the surgeon (Figure 1-3).

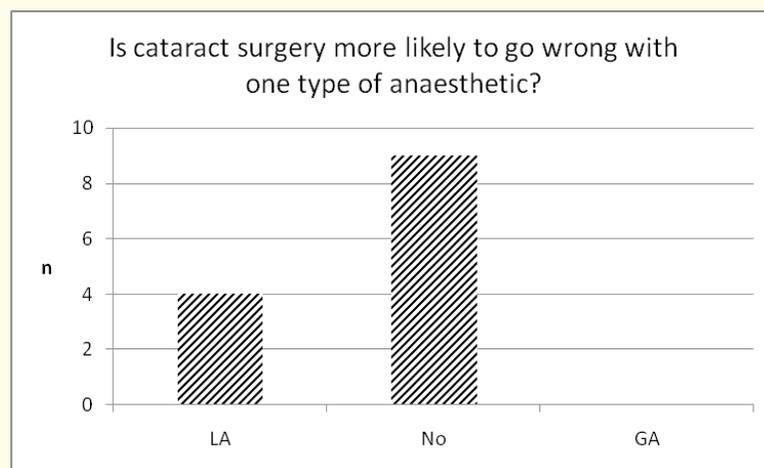


Figure 2: Participant responses to the question 'do you feel that cataract surgery is more likely to go wrong with a certain type of anaesthetic?'

The questionnaire explained that LA can be given by eye drops or by injections at the back or at the front of the eye, without any further information. Given the choice between these three modes of administration 12 expressed a preference for topical administration of LA and 1 participant stated they had no preference.

Then the questionnaire focused on the participants' experiences of their operation. 1 participant had felt very strongly pressured into an attempt at their surgery under LA which had to be aborted and rescheduled under GA (Figure 4).

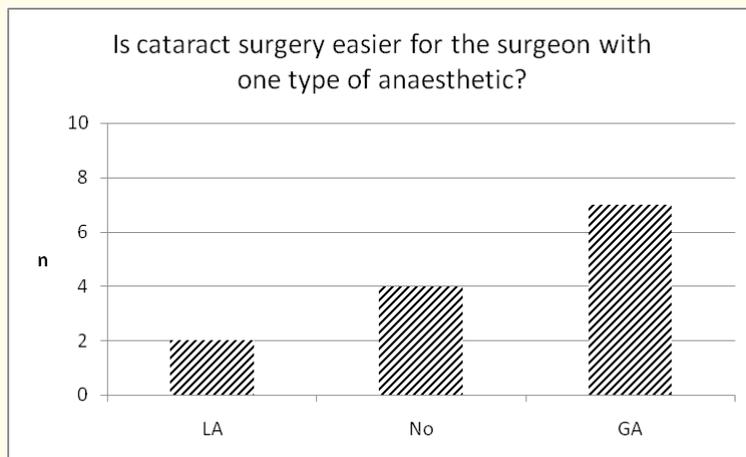


Figure 3: Participant responses to the question 'do you feel that on anaesthetic choice makes cataract surgery easier for the surgeon?'

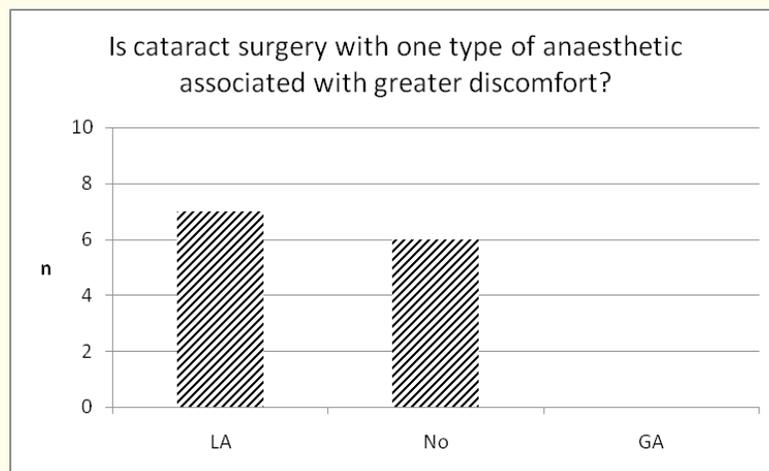


Figure 4: Participant responses to the question 'do you think anaesthetic choice affects the discomfort you experience from cataract surgery?'

All of the participants were satisfied with their operation except 1 who described waking too early from their GA and experiencing a great deal of pain. 1 participant stated that their experience had made them more comfortable with the idea of having cataract surgery whilst awake and a different participant stated that they would consider having LA for a future cataract operation. When asked to suggest improvements to the cataract service 2 participants requested improved pre-operative information; regarding potential post-operative discomfort and the fact that the operated eye will be at a fixed refractive index and so may not be able to perform the distance or reading tasks which it had previously been able to. The participant who had to reschedule their operation as a GA following an LA attempt also requested more emphasis to be placed on the patient's contributions to anaesthetic choice [7].

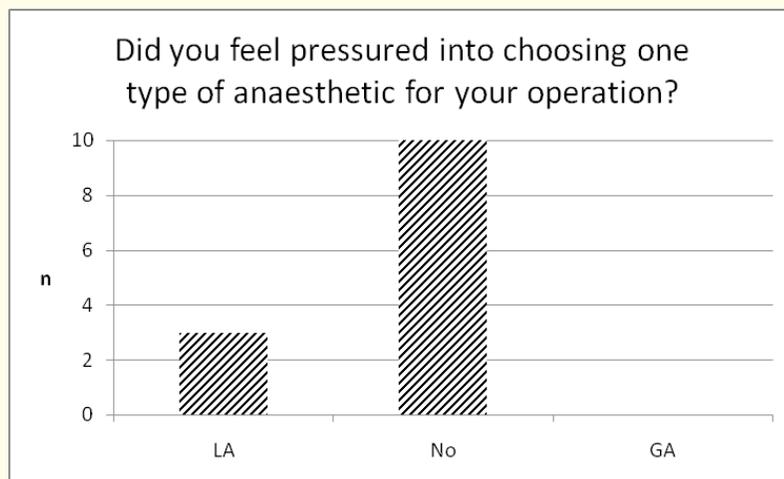


Figure 5: Participant responses to the question 'did you feel pressured into choosing one type of anaesthesia over the other?'

Discussion

The anxiety which leads patients at the Newcastle Eye Centre to choose GA for their cataract operation is generated by features which seem largely unavoidable in LA cataract surgery without sedation. Although this study only examines the perceptions of GA cataract surgery patients, previous work using the hospital anxiety and depression score has described median scores representing no anxiety at any point of hospital contact in LA patients [8]. Much of the reasoning given for LA refusal in our sample was from concerns around visual experience, which has been extensively described in the literature. In a pre and post-operative questionnaire study Ang et al report that 19 of 98 patients found their visual experience to be frightening during LA cataract surgery [9]. This frightening experience was significantly more likely for patients who described pre-operative anxiety but also in those who did not know what visual experiences to expect. Whilst these data findings demonstrate that patient anxiety does translate into real experience it also suggests that tailored patient information may diminish concerns along with their negative impact. Ang et al also describe what proportion of patients reported a range of intra-operative visual experiences which could provide the basis for patient education materials [9]. Misinterpretations of the risk and discomfort associated with LA are evident in our sample. In one of the few papers comparing patients' experiences of GA and LA in cataract surgery Barker demonstrated 21% and 41% of patients complained of nausea and sore throat respectively following a GA compared to 3% on both accounts with LA.10 There was also no significant difference in pain or analgesia requirement [10].

It is unclear to what extent informing patients would affect their decision but there is evidence to suggest that an absence of information translates to a greater expectation for pain [11]. A pre-operative questionnaire study of patients undergoing cataract surgery facilitated by topical anaesthesia in Birmingham found patients who were healthcare professionals, had received professional advice or had previous eye surgery rated their expected intra-operative pain to be 2 out of 10 compared to 5 out of 10 in patients outside of this group [11]. This suggests that taking time to explain what can be expected could improve patient expectations of LA cataract surgery. It has also been evidenced nationally that there is a great deal of variation as to how frequently the process and associated risks of LA administration are explained to patients allowing substantial room for improvement [12].

Whilst this study's findings encourage further information giving to patients, particularly around visual experience, risks and discomfort, it is important that such information is delivered in a neutral fashion. As outlined by GMC guidance it is a clinician's duty to facilitate joint decision making in situations such as these and the collective experience of our sample shows that clinicians' views can

be forced upon cataract patients [13]. The motive for patient education must be to put patients in control of their healthcare not to persuade them towards perceived best practice on clinical or economic grounds.

Conclusions

In the sample of patients who refused LA for cataract surgery on non-clinical grounds the motivating factor in each case was anxiety, most commonly around intra-operative visual or auditory sensation. The perceived higher risk of LA and direct suggestions from participants suggest that increased information giving regarding what to expect intra and post-operatively would improve patient experience. There were no modifiable elements of patient experience that were specifically cited that dissuaded patients from LA for their cataract operation. Targeting some of the common misperceptions amongst patients identified here may make LA appear a less threatening facilitator of cataract surgery.

What was known

There is a substantial amount of variation in usage of GA between cataract centres in the UK. A single centre study has demonstrated a majority of GA usage is due to none clinical contraindications to LA. The factors dissuading patients from selecting LA are as yet unproven and so the viability and target of interventions to standardise GA usage is unclear.

What this paper adds

Among patients who opt for GA over LA for their cataract operation there are misperceptions of the relative risks of the two approaches. Patient choice is largely directed by anxiety based on expected visual and auditory sensory experiences intra-operatively. Patient information interventions should address these areas.

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