

Current practice of local anaesthesia for routine ocular surgery

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Summary

We surveyed the current practice of local anaesthesia for routine ocular surgery by consultant anaesthetists in the Wessex region using a postal questionnaire. Most consultants were in agreement concerning the type and technique of block, and monitoring to be used during local anaesthesia for ocular surgery. The issue of teaching for trainee anaesthetists produced a varied response. We found that a different level of perioperative preparation and monitoring was used from that recommended by the Joint Working Party on the subject in 1993. (*Br. J. Anaesth.* 1998; 80: 241–242)

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In March 1993, a Joint Working Party representing the Royal Colleges of Ophthalmology and Anaesthetists published recommendations for the perioperative management of patients undergoing ophthalmic surgery. Using a postal survey, we aimed to observe the extent to which some of these recommendations are now usual practice for consultant anaesthetists in charge of routine ophthalmic lists. We report the views on provision for teaching of local eye blocks to anaesthetic trainees, the type of blocks performed, precautions taken and complications encountered during the time of insertion of the block and in the perioperative period.

Methods and results

Anaesthetic secretaries supplied the names of consultant anaesthetists who regularly attended ophthalmic lists in the Wessex region. A one-page questionnaire, covering letter and self-addressed envelope were sent to 37 consultant anaesthetists. The questionnaire included tick-box responses to questions on who performed local eye blocks, indications for the block and techniques used for the block. We enquired which preoperative investigations were usually performed, if i.v. access was established, and what monitoring was used routinely before the block and in the perioperative period. Details of complications which had been encountered were requested, as were teaching methods available for trainees.

The response rate to the postal survey was 84%. Each consultant attended an average of 1.3 lists per week. The average number of patients per list was 4.4, 61% of whom received local anaesthesia for surgery. Eighteen consultant anaesthetists (61%) gave

eye blocks, as did 35% of their trainees. Twenty consultants felt that the most important indication for performing a local block was a serious coexisting medical condition, while four believed that day-case surgery and four that surgical preference were most important. Twenty-three responders performed peribulbar blocks with or without topical anaesthesia. Three consultants performed retrobulbar blocks and five performed both peribulbar and retrobulbar blocks.

Axial length was considered before performing a block by 28 responders (90%) and the position of straight gaze was used by all consultants performing retrobulbar blocks. All consultants used 25-gauge needles. Twelve consultants performing peribulbar blocks used 25-mm, three used 16-mm and one used 38-mm length needles. Two consultants performing retrobulbar blocks used 25-mm and three 38-mm length needles. Two consultants used bupivacaine alone and five used lidocaine with bupivacaine. The remainder used a combination of lidocaine, bupivacaine and hyaluronidase.

Monitoring was instituted before performing a local block by 16 consultants (52%). In the perioperative period, pulse oximetry was used by 31 (97%), ECG by 18 (58%) and indirect arterial pressure monitoring by 10 (32%) consultants. Sixteen consultants (52%) established i.v. access as routine. Twelve of the consultants (39%) requested that patients had the same preoperative investigations as for a general anaesthetic, including full blood count, electrolyte concentrations, ECG and chest x-ray, if appropriate, and all had resuscitation equipment available (table 1).

Nine consultants had encountered retrobulbar haemorrhage as a complication of local eye blocks, one had witnessed respiratory arrest and three had observed the oculocardiac reflex as a result of a block.

Trainees were allowed to perform blocks by 35% of the consultants. Forty-two percent of trainees had been taught by an anaesthetist, 16% had been taught by an ophthalmic surgeon and 10% were taught by both. It was not known who taught the remaining 32% of the trainees performing blocks. Fourteen consultants (45%) felt that there was no need for a specific teaching programme for their juniors; four reported that there was a teaching programme in

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Table 1 Percentage of consultant anaesthetists using preoperative preparation and monitoring, and types of blocks performed

| Preoperative preparation | I.v. access and perioperative monitoring | Type of block performed |
|---|--|-------------------------------|
| Monitoring established 52% | I.v. access 52% | Peribulbar 74% |
| Axial length considered 90% | Pulse oximetry 97% | Retrobulbar 10% |
| Resuscitation equipment 100% | ECG 58% | Peribulbar or retrobulbar 16% |
| Prepared as for general anaesthesia 39% | NIAP 32% | 25-gauge needle 100% |

operation and 10 felt that a programme would be worthwhile.

Comment

The average age of patients on ophthalmic lists in the study by Fisher and Cunningham was 75 yr,² of whom 84% suffered from significant systemic illness. Silent myocardial ischaemia in the elderly is well documented, as are side effects relating to multiple drug therapy. It is for these reasons that the Working Party recommended that all patients should be assessed fully before operation. In this study, patients of only 12 consultants (39%) were prepared in the same way as for a general anaesthetic.

Anaesthetists have been implicated in causing a higher rate of complications when performing local anaesthetic blocks than ophthalmic surgeons.³ Previous reports have indicated that the overall incidence of retrobulbar haemorrhage is approximately 1%. This was the complication most frequently encountered by consultant anaesthetists who performed blocks in this study and by their ophthalmological colleagues who also performed blocks. Unfortunately, we did not establish the frequency with which this or other complications occurred. The consultant who had witnessed respiratory arrest did so once in a series of 2000 patients.

Some studies have disputed that the oculocardiac reflex can be initiated by insertion of a block.⁴ In this survey, three consultants reported this reflex occurring while a block was being performed. This may also reflect under-reporting as only 52% of consultants used perioperative monitoring.

The Working Party recommendations state that i.v. access should be mandatory before any anaesthetic intervention but this was standard practice for only 52% of anaesthetists surveyed. The results of this study showed that a different level of perioperative

preparation and monitoring was used in practice from that recommended in 1993.¹ The CEPOD report stresses "that practice amongst anaesthetists is not stereotyped but the fact that more than 90% of practitioners do follow certain patterns supports the notion that standards of practice could now be written".⁵

The question must be raised whether peer group practice should be accepted as the standard; the alternative would be to force a change in current practice. A change in practice in dental anaesthesia followed the Poswillo report when the recommendations were based on objective information concerning the risk of arrhythmia. The risks of monitoring are negligible. Surely the institution of ECG monitoring and i.v. access before insertion of the block should remain as a guideline and be accepted as standard practice?

This study showed that despite the absence of formal teaching programmes, most consultants seemed well aware of the potential complications of siting a local eye block, in addition to the current recommendations to reduce the incidence of side effects. The methods of performing blocks and perioperative monitoring of patients were similar throughout the region.

If the practices and opinions of Wessex anaesthetists are representative of national practices, the question arises if recommended guidelines should be changed to fit with current practices. Alternatively, the recommendations could remain and force a change in anaesthetic monitoring for routine ocular surgery.

This survey should be extended nationally. An extended survey questionnaire should be altered to allow recording of the frequency of complications encountered and the opinions of trainee anaesthetists on the best methods and adequacy of training available for regional eye blocks.

References

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