



# OPHTHALMIC ANAESTHESIA NEWS

## The Newsletter of the British Ophthalmic Anaesthesia Society 2007

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### EDITORIAL

The question of whether to perform orbital regional anaesthesia in patients on anticoagulants or antiplatelet drugs has been the subject of discussion for some years. Recently, BOAS Council was asked to give some guidance in this area, but the question of what is "safe" clinical practice is difficult to address. All regional techniques carry an element of risk, such as bleeding, nerve damage or local anaesthetic toxicity and in the case of orbital blocks, the oculocardiac reflex or acute angina due to stress in a predominantly elderly population. Increasingly, ophthalmic surgery other than cataract is being carried out under "local" (LA), such that in my institution, we are actively encouraging patients to accept a local block, even for macular rotation surgery lasting up to 4 hours. Retinal detachment operations under LA are common.

Unfortunately, many of our patients are also elderly and have age-related problems, particularly heart and vessel disease. They are nowadays offered antiplatelet drugs such as aspirin and clopidogrel. It is

usual to find patients with atrial fibrillation or a prosthetic heart valve on warfarin for life.

We perceive that such patients are at increased risk of bleeding and guidelines exist for the performance of neuraxial blocks in these circumstances, but do the same criteria apply to orbital anaesthesia? The evidence to support best practice is lacking here. We could extrapolate from other types of block to orbital anaesthesia, but it would not be evidence based, for example, we could stop clopidogrel 7 – 10 days before surgery and aspirin for at least 5 days to enable platelets to regenerate. There is long experience with warfarin, where usually it is advised that stopping the drug poses a danger of possibly fatal embolism. Most people's experience is that at therapeutic levels (INR of 2.5 to 3.5) there is rarely orbital bleeding severe enough to cancel the operation or require orbital decompression. Bleeding into the eye remains a risk, but it is small. There is, however, growing unease about antiplatelet drugs, particularly clopidogrel, and particularly in combination with aspirin or warfarin. Combination therapy is a feature of some patients who have had coronary artery stenting, and their cardiologists insist the antiplatelet therapy must not be stopped. Under these circumstances, general anaesthesia, even in a relatively unfit patient, may be the best and safest option if ocular surgery is really necessary. Some patients will only be on anticoagulants in the short term, so it is always worth considering if surgery can be deferred.

Then we have a group of patients who are just very elderly.

Increasingly the "elderly" population presenting to us for eye surgery are not 70 or 80 years old, but late 80s to 90s. This year I have looked after a lady of 103.

Sadly, we had an elderly patient on just 75 mg of aspirin who went blind due to florid orbital haemorrhage after a needle block. The needles used were 30 swg 13mm, and 25 swg 16mm, so "short" by any standards.

This prompted us to look again at our practice and consider a move to subtenons block for all those on antiplatelet drugs. I do know of a similar case a few years ago who suffered such a haemorrhage but who was on no drugs, was not hypertensive, but was just very old. Platelets do not work very well in these elderly people, and their blood vessels are very fragile.

Most of us would try to avoid general anaesthesia for those in their 90s, but subtenons may not be very adequate for example in patients who have had previous encirclements or a lot of cryotherapy. and our anterior segment surgeons are much less keen on subtenons for trabeculectomy or corneal grafting. This may not be so in your hospital, but it exemplifies how anaesthetists must be flexible in order to facilitate a good outcome for the patient. For cataract, we can use topical-intracameral, but in any hospital offering other than a cataract service, and in a tertiary referral centre in particular, much of the work needs a block or GA.

There is also the question of training. Do we stop using sharp needles

because so many patients are at risk from bleeding? If trainees are not taught the techniques properly, then they will be unable to provide a comprehensive anaesthetic service in the future, or they will risk a needle block with inadequate experience under their belt.

Subtenons alone is not necessarily the answer. There remains a need for needle blocks in the minds of many. This includes both surgeons and anaesthetists.

It is true, however, that surgeons without the benefit of colleagues trained in advanced life support, have, if they follow the joint Colleges' guidelines, to perform their surgery with subtenons or other forms of local anaesthesia, avoiding sharp needles. What this really means is that these ophthalmologists are used to doing it, so it does not appear to be a problem. Others, such as some of my own colleagues, insist that peribulbar techniques provide better conditions for corneal surgery.

The question of trainees doing sharp needle blocks was recently debated in the Bristol School of Anaesthesia, and it emerges that the tutors remain keen that trainees are still exposed to these techniques. For the time being, we have adopted a compromise. Trainees should not perform needle blocks unsupervised, but may perform them under direct consultant supervision.

Of course, the consultants have to continue to do them in order to remain credible and safe as trainers. At present, then, there is no clear evidence base on which to issue guidance. Each case must be treated on its merits, but some consensus of opinion would perhaps

help us to formulate a view on what is *considered* best practice in the absence of large scale audit or clinical trials.

The problem with many studies is that they do not separate out the elderly from the not quite so elderly, or those with particular risk factors like senile platelets or aspirin. Such a drug history is of great importance as far as risk is concerned.

A fairly large study on cataract surgery is soon to be published in an ophthalmology journal, with data obtained from electronic patient records. My question is: "how accurate are these records from the anaesthetic point of view?" in my hospital often the "default" record is entered, when something entirely different was done.

So what are we doing in Bristol? We will probably soon ask for antiplatelet drugs, but not warfarin, to be stopped for a week prior to surgery, unless cardiological opinion insists on continuation of the drug. This includes low-dose aspirin (75 mg OD). What will happen if the drugs are not stopped? I imagine most of them will still get their operation, but maybe without the sharp needle.

**Steve Mather**

**Please send articles, letters and newsworthy items to [stephen.mather@bmsc.co.uk](mailto:stephen.mather@bmsc.co.uk)**

## **MESSAGE FROM THE PRESIDENT**

### **The future for BOAS is bright!**

The British Ophthalmic Anaesthesia Society is an organisation of anaesthetists, ophthalmologists and other clinicians, who are committed to sharing education and information on ophthalmic anaesthesia. The society was established in 1999 with the clear above aims which will ultimately lead to safer clinical practice. What has BOAS achieved in the last 8 years with notable past presidents such as Dr Robert Johnson, Professor Chris Dodds and Mr Ken Barber and council members Drs Anthony Rubin and Monica Hardwick? No doubt most BOAS members know very well what BOAS has achieved over the years but I think newcomers would also wish to know.

**Annual scientific meetings:** The annual scientific meeting is held every year. The inaugural meeting of the society was held in the Tall Trees Hotel, Yarm, Middlesbrough. This meeting attracted no less than 7 international speakers as well as UK national and international speakers. Since then meetings have been held in various parts of the country every year except the year of the historical 1<sup>st</sup> World Congress of Ophthalmic Anaesthesia in 2004. Scientific topics have ranged from anatomy to clinical practice, targeted towards reducing complications and safer anaesthesia. This society has conducted many master classes by renowned speakers and offered clinical tips to members.

**Links with other organisations:** BOAS has formed close bonding with our sister organisation in the USA, the "Ophthalmic Anesthesia Society" or OAS. We continue to exchange speakers and both organisations have benefited from exchange of knowledge and speakers. The society has attracted most notable names in ophthalmic anaesthesia. BOAS is recognised as a very successful organisation by national organisations such as The Association of Anaesthetists of Great Britain and Ireland, The Royal College of Anaesthetists, The Royal College of Ophthalmologists and the United Kingdom and Ireland Society of Cataract and Refractive Surgeons.

**World Congress of Ophthalmic Anaesthesia:** One of the biggest achievements of BOAS was to organise the 1<sup>st</sup> World Congress of Ophthalmic Anaesthesia in London in 2004. This success story is unheard of for an organisation which has such a short life span. This congress not only attracted 31 speakers from different parts of the world but also had delegates from 73 countries. The congress was so successful that the attending delegates overwhelmingly voted to go for a 2<sup>nd</sup> World Congress with Professor Chris Dodds as International President and Professor Ezzat Aziz as Congress Organising Secretary hosting the Congress in Cairo in February 2008, just before the World Congress of Anaesthesiologists in Cape Town. WCOA is progressing well and I would urge you to attend this Congress and support BOAS. The details can be found by visiting [www.wcoa2008.com](http://www.wcoa2008.com).

***The last date for submission of abstracts to the World Congress will be 15th January 2008.***

Arrangements are in hand for the 3<sup>rd</sup> World Congress of Ophthalmic Anaesthesia in the year 2012 subject to approval by the general delegates in Cairo and support from BOAS and OAS.

**Membership:** The society started with 64 members but currently BOAS has more than 200 members on the database and membership continues to increase every year.

**Ophthalmic Anaesthesia News:** The society continues to publish hard and as well as electronic and paper versions of Ophthalmic Anaesthesia News for members, an electronic version is made available for the benefit of non-members world wide. Dr Stephen Mather is the editor-in-chief of Ophthalmic Anaesthesia News and no doubt the quality of the newsletter will improve.

Your support is vital if the BOAS is to progress. You have given your unqualified support over the years and I am sure you will continue to do so. I look forward to seeing you all at the 2<sup>nd</sup> World Congress of Ophthalmic Anaesthesia in Cairo on 28-29<sup>th</sup> February 2008.

**Chandra Kumar**

President of BOAS

**The 2<sup>nd</sup> World Congress  
of Ophthalmic Anaesthesia**

**WCOA**  
Cairo, Egypt  
World Congress of Ophthalmic Anaesthesia

Organized in Association With  
British Ophthalmic Anaesthesia Society

**27-29 February 2008  
Cairo - Egypt**

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**www.wcoa2008.com**

**Last date for abstracts: 15<sup>th</sup> January 2008**

## **REPORT OF BOAS 9<sup>TH</sup> ANNUAL SCIENTIFIC MEETING**

**YORK, JUNE 21-22 2007**

The BOAS 9<sup>th</sup> Annual Scientific Meeting this year was held in the historic city of York. A very interesting and varied programme was produced encompassing clinical lectures, case presentations from clinicians willing to share their experiences (successes and near disasters), a session on medico-legal issues with experts in their fields relating alarming examples of good clinicians getting into difficulties over `trivia`, and free papers of very high standard with the best one winning the prestigious `Kumar Prize`. The faculty included eminent speakers from all over UK and the USA.

As always this year`s meeting was very well attended with delegates supporting the society despite study leave budgets being squeezed by Trusts under financial constraints. Apart from the high quality of speakers lively debate was contributed to by all the delegates raising some very practical issues faced by clinicians.

the choice of venue at the Royal York Hotel in the city of York would be hard to beat. The hotel overlooks York Minster and the city itself is a fascinating mix of old and new with numerous tourist attractions including museums and art galleries next to the most modern fashion houses and shopping arcades. The hotel building was no less impressive with imposing high ceilinged halls, large chandeliers and real wood old furniture. The meeting was generously supported by Abbot with sumptuous food so that out of session discussions could be thoroughly enjoyed over refreshments; old acquaintances renewed and new ones forged.

The first session of the meeting was chaired by Dr. KL Kong. He introduced Dr. Steve Mather who gave us a comprehensive review of the paediatric syndromes involving ophthalmic pathology which may present challenges to the ophthalmic anaesthetist. His accompanying abstract was equally comprehensive and I am sure will be smuggled into anaesthesia rooms as an aide memoire for many anaesthetists who attended the meeting. Professor Chris Dodds spoke next in his usual entertaining way about the other end of life and the physiological complications of aging and how they impact on anaesthesia. The session was concluded by Dr. Hamish McLure who outlined the problems of anticoagulation and suggested that modern local anaesthetic techniques may be safe with full anticoagulation but that the jury was still out .

Lunch followed where generous helpings of food and drink were consumed. No one seemed to be on one of the ubiquitous diets. Delegates had decided either to start their diets after the meeting or had come prepared for a binge after having been on a diet for weeks. Everyone seemed to be having a good time. The postprandial session consisted of case presentations and medico-legal issues. Case presentations, as usual, were of the highest quality and included one by Dr. Hamish McLure who presented a patient on whom he had failed to do a sub-tenons block and who had a full band around the globe. Unlike in a case report where the operator in similar circumstances went on digging with Westcott scissors and perforated the globe Dr. McLure was a lot more perceptive and changed his technique. Another case presented by Dr. Ismail was a man with aortic stenosis who was not fit for cataract surgery under regional block. Dr. Ismail successfully proceeded with a general anaesthetic and all was well. This case reminded me of an old anaesthetic maxim `there is minor surgery but there is no minor anaesthesia`.

The next session was chaired by Mr. Ken Barber who introduced Mr. Ian Simmons and Mr. Jeff Hillman. Ian Simmons is a practicing ophthalmic surgeon at Leeds and has an interest in medico-legal work while Jeff Hillman retired from clinical practice in 2002 but has continued his

medico-legal practice. They were both eloquent speakers and very entertaining (a few jokes were told at the expense of the legal profession) while delivering serious and at times chilling messages drawn from their vast experience in medico-legal practice. During this session most delegates were sitting at the edges of their seats and a pin dropped could have been heard. Most delegates could probably relate to what was being said. Many of us have woken up at night in a cold sweat during a nightmare about a potential disaster followed by a legal case. It's perhaps worthwhile quoting some of the messages that were delivered and I will paraphrase some of the others.

'Cases are won or lost on evidence, not on truth.'

'GMC hearing can be likened to a kangaroo court.'

'Patients sue when they are embittered because they feel they have had a rough deal.'

'As part of informed consent patients must be told about all risks and the facts documented in the notes.'

'Patients generally forget. They usually only remember what you tell them at the end.'

'Practice within your competence. Professing to be competent at something that you are not is breach of duty.'

'Misdiagnosis is a mistake but never looking for the relevant pathology is negligence.'

'You must get consent because surgery is legalised assault.'

'Become verbose with note writing.'

'Assume all complications will go to court.'

'It is often cheaper for the Trust to settle out of court.'

'Try not to veer from accepted practice, for example, College guidelines.'

This was followed by a heart rending personal experience by a consultant colleague who was suspended due to a mishap that resulted in the death of a patient. He reminded everyone that `suspension is not a neutral act; that once you are outside the system there is very little recourse; you are isolated because colleagues feel `dirtied by association` and that employers are only interested in the organisation.'

Business of the first day was concluded with a meeting of the council members. Some retirements were announced; for example, Ken Barber was stepping down as the president to be replaced by Chandra Kumar. Sean Tighe had served his term of three years as the BOAS secretary and K-L Kong took over as the new secretary. Some members put themselves up for re-election and some new applications for council membership were discussed. The treasurer brought everyone up to date with the financial status of the society. Plans and financial implications of the World Congress in 2008 in Cairo were discussed.

Evening dinner was of the usual high standard with a generous supply of wine and was very well attended. A very soothing programme of background music was played by a brass band. Sadly Pat McSorly announced her retirement. She will be much missed as she was a king pin of the Society. Fittingly Pat was presented with a large bouquet and a kiss from Chris Dodds.

On the second day the first session started promptly at 9 am. Dr Steve Mather chaired this session and he introduced Mr Tom Eke, who is an enthusiast of topical anaesthesia for phacoemulsification but I didn't know he preferred topical anaesthesia for trabeculectomy as well. He made a good case for topical, saying peribulbar and sub-tenon's blocks are more likely to raise intra-ocular pressure in these patients who already have glaucoma which proved resistant to medical treatment. Fortunately my surgeon prefers a sub-tenon block performed by me! Dr Bob Johnson spoke next in his own inimitable way on the subject of anaesthesia for vitreoretinal surgery. As always Bob had prepared the subject thoroughly and delivered it masterfully. Only Bob could make this otherwise dreary subject captivating listening. Although he gives a general anaesthetic to most of these patients, I think I am right in saying that he said he himself would have a sub-tenon's block! Dr Roger Slater was the final speaker of this session. He delivered a very interesting lecture on anaesthesia for orbital decompression.

The next session was a free papers session chaired by Dr K.L.Kong. At stake was the prestigious Professor Kumar's Prize. Subjects presented were many and varied. The delivery was extremely good. I was amazed at how each year the quality of free papers improves and the decision to choose a winner becomes harder and harder for the judges. This year the 'Kumar Prize' went to Dr Thomas from West Birmingham Hospitals NHS Trust. His audit of oculocardiac reflex during strabismus surgery was judged to be the best presentation. The prize for the best poster presentation went to Dr M H Lee from Norfolk and Norwich University hospitals. His study of patients' subjective experience during Yag laser iridotomy at the slit lamp using topical anaesthesia was very well presented in the form of a poster.

The final session was chaired by Dr Monica Hardwick who introduced Professor Chris Dodds. He brought everyone up to date with teaching and training issues. While some aspects of his lecture were worrying, particularly for those who are coming to the age where they might be recipients of the care, he ended on an optimistic note saying solutions were on the horizon.

The best in my view was saved till the end. A very interesting debate on the subject of 'No place for the routine use of sharp needle blocks' where Mr David Smerdon spoke enthusiastically in favour of the motion while Mr Ken Barber calmly opposed him. Somewhat surprisingly, and against the flow of vociferous support, Ken narrowly won the day on the final show of hands.

Overall a brilliant meeting and the organisers may be justly proud. All delegates went away having enjoyed the educational and the social side of the meeting while the partners had a good time sightseeing and shopping. York is an excellent city to visit and I hope to visit again and spend a weekend just exploring.

**Guri Thind**

## **ARTICLES**

### **ANALYSIS OF 246 OPHTHALMIC BLOCKS-**

## THE VALUE OF DATA COLLECTION AND REFLECTIVE LEARNING

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Data collection in medicine is a vital component of both self-evaluation and, importantly, an assessment of personal performance against published outcomes, especially when applying research recommendations to one's practice. We conducted a retrospective analysis of data collected on ophthalmic regional practice and unearthed some valuable trends and results.

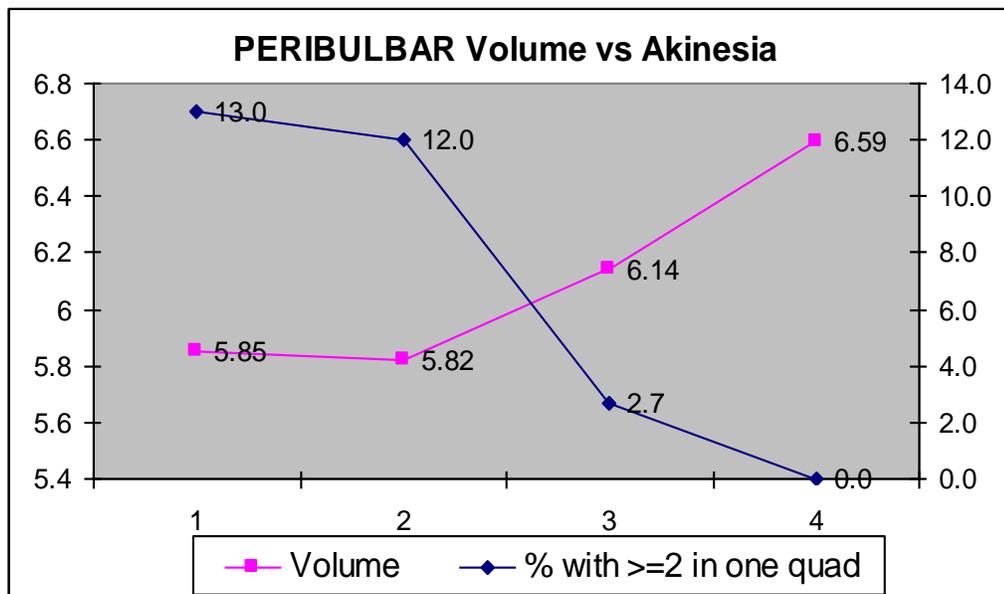
### Methods

Data was prospectively collected for 246 consecutive patients presenting for ophthalmic regional anaesthesia on identical lists over two years (2004- 2006) by a single operator. The default technique was peribulbar anaesthesia, with sub-Tenon blocks done on surgical request. Data on patient details and history, block efficacy and complications were collected. Akinesia was assessed by the Brahma scoring system (0-3)<sup>1</sup> in four quadrants, and the percentage of patients with a score of  $\geq 2$  in at least one quadrant. Concerns regarding the impact of high injectate volume in peribulbar blocks prompted smaller volumes initially.

### Results

Predominantly ASA II, III (107, 109) patients with a mean (SD) age of 76.4 (10.6) and axial length of 23.5 (1.5) had peribulbar (184) and sub-Tenon blocks mainly for PHACO (235)

1. Block efficacy was good (5.3% antibiotic pain, 12.2% one score  $\geq 2$ : mostly sub-Tenon).
2. Poorer akinesia noticed with lower peribulbar volumes prompted a slow volume increase.
3. The anaesthetic caseload on identical lists reduced over two calendar years (153 to 79) and in the absence of any service restructuring, reflects an increase in cases done under topical.
4. The ratio of peribulbar to sub-Tenon blocks reducing from initially more than 4.5:1 to 1:1 over two years clearly reflects a change in surgical preference towards sub-Tenon blocks.



Mean volume 5.85 vs. 6.45 mls ( $p < 0.001$ )

## **Discussion**

1. Analysis justifies the increase in peribulbar volumes brought about by reflection on personal data. Interestingly, it also shows that a modest 0.7 ml mean increase had a profound impact on akinesia and slightly less pain, unlike larger volume variations previously studied<sup>2</sup>.
2. The drop in caseload has significant implications for training and maintaining skill levels.

## **References**

1. Brahma AK et al. Single medial injection peribulbar anaesthesia using prilocaine *Anaesthesia* 1994; **49**: 1003-5
2. Ortiz M et al. Peribulbar anaesthesia: the role of local anaesthetic volumes and Thiomucase in motor block and intraocular pressure. *Eur J Anaesthesiol* 1995; **12**: 603-7.

## **OPHTHALMOLOGY SPECIALIST NURSES & ANAESTHETIC TRAINEES – CONFLICT OF INTEREST?**

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### **Introduction**

Ophthalmology specialist nurses (OSN) were introduced in 2004, to carry out local anaesthetic blocks at Torbay Hospital. To date they have performed over 2000 sub-tenon anaesthetics for cataract surgery. Our anaesthetic department was interested to discover whether or not their introduction was affecting ophthalmology anaesthetic training.

### **Method**

An anonymous questionnaire was sent to every trainee at Torbay Hospital over the last 2 years, and a number of questions were asked. Firstly we asked them about their ophthalmology anaesthetic experience, how much of it was supervised, and did they feel they had had enough experience for their level of training. They were then asked whether they were aware that ophthalmology nurses did sub-tenon blocks in the department, and whether they had worked with or had been trained by them. Finally we asked about their thoughts on their experience with them, and whether they felt there was a conflict of interests between trainees and nurses in this field.

## Results

18 questionnaires were sent to specialist registrars and current senior house officers, and 14 were returned. 10 doctors stated they had carried out ophthalmology lists at Torbay, 6 had done between 5 and 10 lists, and 4 had done less than 5 lists. 4 out of 10 doctors had been supervised more than 50%, 2 supervised 25-50% and 4 less than 25% of lists.

Half of the returned questionnaire stated they had done lists with the OSN's, and all five received teaching from them. 4 out of 5 trainees described their training as excellent or good, and a positive experience. 2 other replies felt that this system had a negative influence on anaesthetic training. 13 out of 16 replies said they would be happy to be taught sub-tenon injections by a specialist nurse, and a couple of replies stated they would prefer initial consultant supervision.

Finally, 12 out of 14 responders stated they felt OSN's did not present a conflict of interests in terms of training and experience.

## Discussion

This questionnaire highlights that ophthalmology specialist nurses do not present a conflict of interests to anaesthetic training and in fact enhance it, by helping with training and education. Those trainees who had had training from the OSN's felt it was a positive experience, and most trainees expressed that they would be happy to be taught by them.

## A NEW TECHNIQUE OF MINIMALLY INVASIVE SUB-TENON'S ANAESTHESIA

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It is fourteen years since Julian D Stevens first described a new cannula for the delivery of local anaesthesia to the Sub-Tenon's space. This was a 19 gauge rigid cannula, with a 1 inch shaft, a gentle curve to follow the contour of the globe and anterior-posterior flattening.<sup>1</sup>

Pencil point spinal needles have previously been shown to lower the risk of post dural puncture headache following dural puncture when compared with traditional cutting needles. This is due to reduced damage of the dura mater with consequent reduced leak of cerebral spinal fluid.<sup>2</sup> We postulated that using a similar 'pencil point' tipped cannula inserted through the conjunctiva without prior incision may enable access to the Sub-Tenon space with reduced conjunctival damage when compared to traditional 'incisional' techniques.

The "Tri-Port Subtenon Anaesthetic Cannula" (EAGLE Laboratories) is a 21 gauge Sub-Tenon cannula with a pencil point tip. It is curved but not flattened and has three ports, 1 central and 2 lateral. We have developed a technique for Sub-Tenon's anaesthesia using this needle without prior conjunctival incision.

The conjunctiva is anaesthetized with topical local anaesthetic and a speculum is inserted. The patient is asked to look up and out and a small tent of conjunctiva is elevated in the inferior medial quadrant 5mm from the limbus. Without making an incision the cannula's pencil point tip is inserted directly through the conjunctiva. The patient is asked to look straight ahead and the

needle is advanced around the contour of the globe. Following aspiration local anaesthetic is injected. No incision is made.

This technique appears to be less invasive and causes very little trauma to the conjunctiva. As the insertion site is of minimal size, less anaesthetic agent is lost anteriorly. This leads to improved onset, quality and reproducibility of the block.

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1. Stevens JD. Curved, Sub-Tenon Cannula for Local Anesthesia. *Ophthalmic Surg* 1993; 24:121-122.
  2. Vallejo MC, Mandell GL, Sabo DP, Ramanathan S. Postdural Puncture Headache: A Randomized Comparison of Five Spinal Needles in Obstetric Patients. *Anesth Analg* 2000; 91:916-920

#### **EFFICACY OF PERIBULBAR BLOCKADE WITH 5/8 COMPARED TO ONE INCH NEEDLES USING A DOUBLE INJECTION TECHNIQUE.**

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Provision of ophthalmic regional anesthesia varies worldwide. Both akinetic and non-akinetic techniques are used<sup>1</sup>. Despite the increase in popularity of sub-Tenon's techniques using a blunt cannula, peribulbar techniques using sharp needles is still accepted and widely practiced in this part of the world. Since the first introduction of the peribulbar block in 1986 by Davis and Mandel<sup>2</sup>, many modifications of the techniques were observed. Bloomberg described a

technique where the anesthetic solution is deposited more superficially outside the muscle cone, approximately 18 mm from the skin surface. Five ml of anesthetic agent is injected into the supero-nasal orbit and a further 5 ml infero-temporally<sup>3</sup>.

Peribulbar anaesthesia is achieved by bulk spread of local anaesthesia. The block is often established using a single or double injection technique<sup>4</sup>. In our institute the choice between single or double injection technique is based on the volume of the orbit, degree of akinesia required, experience of the ophthalmologist and preference of the anesthesiologist. For dual injection technique; the most popular site for the first injection is the infero-temporal site, the classical site for the second injection is supero-medial<sup>5</sup>.

Needle length is an important consideration in the safe conduct of ophthalmic blocks. Atkinson described the use of a 35mm needle length in performing the retrobulbar block<sup>6</sup>. While Davis and Mandel described the peribulbar block using 27.5mm long needle<sup>2</sup>. It is now common practice to use 25mm needles to administer peribulbar block<sup>5</sup>. Some authors had demonstrated excellent results with 16mm needle<sup>7</sup>. Shorter needles, 25mm or less, are likely to reduce the risk of damage to nerves, vessels & muscles deep to the globe<sup>8</sup>. Optic nerve penetration and brainstem anesthesia are usually associated with needles 35 mm or longer<sup>5</sup>.

The aim of this study is to compare the efficacy of using a 5/8 inch needle with the recommended one inch needle in double injection peribulbar block technique

#### **Method:**

After approval of the hospital's research and human ethics committees, data was collected retrospectively by reviewing 528 patient records. Patients' records were divided in two groups (264 each) based on the needle length used. All adult patients who underwent any anterior segment procedure were included in this study.

The peribulbar block double injection technique commonly performed at King Khaled Eye Specialist Hospital (KKESH) involves an infero-temporal and a supero-medial injection. The injection site of the inferior injection is lateral to the junction of medial two-thirds and lateral one-third. With the patient's eye in the neutral position, the needle is directed perpendicular to the skin then redirected slightly medial and upward by 15-20 degree to avoid the lateral orbital wall. After negative aspiration up to 10 ml of local anesthetic solution is injected. The supero-medial injection site is also lateral to the classical 2.30 clock face site (right orbit) and is situated at a 1:00 to 1:30 clock face site. The needle is directed over the globe and straight back once over the equator. Between 3-5ml of local anesthesia is deposited outside the muscle cone. The anesthetic solution used is a mixture of lignocaine 2%, bupivacaine 0.5% without epinephrine, in 2:3 volume mixes with 5 IU/ml hyaluronidase. A Honan-cuff pressure reducing device is applied and inflated.

A simple akinesia score originally described by Crawford is used for assessment of the block<sup>9</sup>. Eye movement in four directions is assessed – inferior, superior, medial and lateral. Normal movement is scored at 2 and reduced movement at 1 and flickering movement or akinesia is scored at zero. The sites of supplementary injections are supero-medial for superior or medial movement and infero-temporal for inferior or lateral movement. Note that in our department we often attempt to achieve total akinesia to assist the teaching of surgical techniques to

ophthalmology residents. A score of three out of eight which is often accepted elsewhere, is seldom acceptable except for phacoemulsification in experienced hands in our institution.

#### *Statistical Analysis*

The sample size of the study group was calculated using N-Quary software version 4, based on  $\alpha=0.05$ , equivalence rate =0.2, Akinesia was achieved in 77% of patients using a 25mm needle<sup>10</sup> and 81 % success rate for our pilot study using 5/8 inch needle. Two-sample t-tests was used to compare the age, weight, duration of surgery and other normally distributed data. Nominal data and proportions were compared with Chi-squared analysis. A P value <0.05 was considered significant.

#### **Results:**

Five hundred and twenty eight patients were enrolled in this study. Demographic and clinical data are shown in Table 1. Except for age and duration of surgery, the two test groups were comparable for height, weight, sex, operated eye, axial length and frequency of staphyloma.

The volume of local anesthesia injected, supplementation rate and acceptable akinesia by the surgeon are shown in table (2). The volume of the first infero-lateral injection was statistically greater with 5/8 inch needle group while the volume of local anesthetic injected through the supero-medial approach was statistically greater with one inch group (P value < 0.05) compared to the other group. Total volume of the injected local anesthesia after supplementation was statistically greater with 5/8 inch group (P value < 0.05) compared to the other group. Acceptable akinesia after the double injection (score 3 or less) was 90.5% and 89% in group 1 and 2 respectively. For the teaching purpose, many surgeons require a full akinesia, so supplementary injections of local anesthetic are common. Supplementation rate to achieve full akinesia was 25.3% and 25% for group one and two respectively with no statistical significant difference. There were no cases of globe perforation, retrobulbar hemorrhage, central spread, optic or retinal damage, rectus muscle paresis, orbital hematoma and lid hemorrhage in both groups. No major life threatening complications were recorded.

#### **Discussion:**

The results of this study showed that the use of a 5/8 inch needle gives a comparable result to one inch needle in term of akinesia and supplementation rate. Scott and colleagues<sup>7</sup> demonstrated that a 16mm needle reaches to the vicinity of the orbital equator and cannot pass beyond it, while the longer needle of 25mm may be advanced beyond this area into the more dangerous retrobulbar space and may also pass into the inferior orbital floor reducing the spread of local anesthetic around the globe itself. Gills et al<sup>11</sup> divide the orbit into three spaces (anterior, mid and posterior) for better appreciation of the relationship of injection site. The anterior orbit ends 2-5 mm anterior to the equator of the globe and is filled primarily with connective tissue while the mid- orbit ends posteriorly about 10-12 mm behind the hind surface of the globe. It contains primarily muscle bellies and adipo-connective tissue. Insertion of longer needles deep into the orbit increases the potential of injury to important structures and that limitation of the depth of needle insertion may limit needle injury<sup>12</sup>. Hamilton demonstrated that a needle longer than 31 mm increased the risk of direct injection into the subarachnoid space and injury to the optic nerve<sup>13</sup>.

Since ocular akinesia is accepted as an indication of ocular analgesia it is used in this study to assess efficacy. A further indicator of efficacy of the block is the requirement of supplementary injection. This is convenient as the expectation of most of our junior ophthalmology staff in our

teaching hospital is akinesia. For experienced ophthalmologist performing phacoemulsification, akinesia is not required and topical anesthesia is often requested. Our targeted end point was achieved in 90.5% and 89% with one inch and 5/8 inch needle length respectively. The data published previously from our hospital demonstrated a success rate of 66% and 36% of primary double injections for one and 5/8 inch needle length respectively <sup>4</sup>. Although the results, with respect of akinesia achieved in the current work with the primary injection was often considered acceptable by most standards, a second injection was often performed to assure the expected degree of akinesia. The reported supplementation rate varies worldwide from 5-63%<sup>14, 15</sup>. The supplementation rate of the current study, was 25.3% and 25% for one and 5/8 inch needle length. This is in contrast to the Van den Berg study that showed a supplementation rate of 44% and 64% for 25 and 15 mm needles<sup>4</sup>. Since the same mixture of local anesthetic used for both studies. We attribute the improved result with shorter needles not only to the growing experience of all anesthesiologist in our department but also to tolerance of the operating surgeon to the eye movement due to improvement of the surgical techniques. Budd and his colleagues <sup>16</sup> reported Akinesia of 79% with 25 G, 25 mm needle in a double injection technique involving inferotemporal and medial approaches. Our results are in agreement with Rizzo et al <sup>17</sup> who demonstrated 78.6% of patients had a motor block of more than 80% after 5 min and after 7 min 100% of patients had adequate anesthesia to proceed with and complete the surgery using 16 mm needle with infero-medial approach. Scott and colleagues<sup>7</sup> demonstrated effective results with a 16 mm needle and attributed their success to effective anatomic placement within the orbit allowing access to the retrobulbar space via fascial septae.

The total volume of local anesthetic injected in our 5/8 inch needle group was statistically significantly higher compared to the one inch group (14.4 vs 14.9 ml) and after a supplementary injection (16 vs 16.9ml). Clinically the difference appears small. The difference between the two groups could be attributed to the more anterior placement of the local anesthetics and the longer distance the injectate needs to travel to reach its target nerves. In consistent with our opinion, Ripart et al<sup>18</sup> who demonstrated that local anesthetic injected extraconally has a longer way to spread into the cone to block all nerves responsible of the sensory, motor and autonomic innervations of the eyeball and increasing the volume injected is a mean of compensating for this need for more spreading. Gillart and his colleagues<sup>19</sup> demonstrated that the use of large volume (13.5) improves the quality of akinesia. The relatively large volumes of injectate are consistent with previous work from our institute <sup>4</sup> and in contrast to the small volume used by single injection techniques <sup>17, 20</sup>. We attribute our increased volume to the need for akinesia and also to our technique which is strictly periconal. Moreover, Frow et al <sup>9</sup> attributed the larger volume used in his work by titration of injected solution to the total upper eyelid drop as an end-point marker to determine the success of the block in an individual patient. Fullness and upper eyelid dropping is commonly used methods in our institute to determine the desired volume of local anesthetics.

In conclusion: our experience with 5/8 inch needle length to perform peribulbar block using infero-temporal and a supero-medial double injection technique showed a comparable results with one needle. This technique is equally effective. .

**Table (1) Demographic and clinical data**

	<b>Group 1 ( 1 inch)</b>	<b>Group 2 (5/8 inch)</b>
Age (years)	64.3 (12.6)	61.3 (14.4)*
Height (cm)	157.8 (9.5)	159.1 (9.5)
Weight (kg)	73.5 (15.7)	72.9 (15.6)
Sex (M/F %)	56.7/43.3 %	56.1/43.9 %
Operated eye (Rt/Lt %)	45.6/54.4 %	40.3/59.7 %
Axial length	23.49 (1.9)	23.73 (1.8)
Duration of Surgery	47.5 (22.4)	41.6 (23)*
Frequency of Staphyloma (%)	27 (10.3%)	29 (11%)

**\*P value <0.05**

Data are expressed as mean and standard deviation while sex, operated eye are expressed as percentage. Presence of staphyloma is expressed in relation to the number of patients.

**Table (2): Volume of local anesthesia injected, supplementation rate and akinesia**

	<b>Group 1(1 inch) (N= 264)</b>	<b>Group 2 (5/8 inch) (N= 264)</b>
Initial Volume injected		9.8 (0.4)*
Infero-lateral	9.1(1.5)	5.06 (0.9)
Supero-medial	5.3 (2.2)*	14.9 (1.1)*
Total	14.4 (3.2)	
Total volume injected	16 (4.6)	16.9 (4.2)*
No. of patients requiring supplementary injection	67 (25.3%)	66 (25%)
Acceptable akinesia after double injection (Score 3 or less)	238(90.5%)	235(89%)

Full akinesia after supplementation	264(100%)	264(100%)
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Data expressed as a mean value and standard deviation or number and percentages.

- *P value < 0.05*

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## **SEVERE ALLERGIC REACTION AFTER ADMINISTRATION OF OXYTETRACYCLINE HYDROCHLORIDE EYE OINTMENT**

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### **ABSTRACT**

Serious allergic reaction can happen with any medication if the patient is especially sensitive to it. We report a case of severe allergic reaction following topical administration of oxytetracycline hydrochloride eye ointment after chalazion surgery. Clinical features suggestive of severe allergic reaction occurred immediately after the application of ointment. The treatment of anaphylaxis is an emergency and the presence of a person trained in resuscitation is essential in any operating theatre suite.

### **INTRODUCTION**

Allergic reactions may occur after administration of any drug by any route. The application of antibiotic ointment after chalazion surgery is routine practice at many hospitals or office setting for prevention of postoperative infection. Oxytetracycline eye ointment is indicated in the treatment of superficial ocular infections involving the conjunctiva. In the printed instructions in the commercial package, a passing mention is made about rare but simple

allergic reactions following topical administration of this eye ointment. However, severe allergic reaction can occur at any time anywhere and immediate treatment is essential [1].

We report a case of severe allergic reaction that required immediate resuscitation following the application of oxytetracycline hydrochloride eye ointment after chalazion surgery and current management is discussed.

## **CASE REPORT**

A 16-years-old girl with a chalazion was scheduled for surgery. She was not known to suffer from allergy or hypersensitivity to any drug. An intravenous line was secured in her hand in the operating theatre. Routine monitoring involved electrocardiography, non-invasive blood pressure and a pulse oximeter. Topical anesthetic eye drops (Proparacaine HCl 5%) were instilled and the site of surgery was infiltrated with 0.5 cc of 2% lidocaine. After placing a chalazion clamp, the contents were cleared with a curette through an incision in the palpebral conjunctiva.

Antibiotic eye ointment containing 1 mg of oxytetracycline hydrochloride was applied to the eye after checking haemostasis. Within a few minutes, the patient complained of dizziness and burning sensations all over her body, followed by urticarial rashes first noted on the forearms spreading all over her body. An allergic reaction to the eye ointment was suspected. The anaesthesiologist who was working in an adjacent theatre was summoned for help. The patient received 50 mg pheniramine hydrogen maleate, 50 mg ranitidine and 100 mg prednisolone intravenously. Symptoms resolved temporarily for 3-4 minutes. The patient then complained of chest pain and difficulty in breathing. Heart rate was stable, but the arterial blood pressure dropped to 70/40 mmHg and oxygen saturation dropped to 92%, subsequently. 100% oxygen was administered with a closed face mask and intravenous fluid (Ringer lactate) was started rapidly. The heart rate decreased to 40 beats/minute and the blood pressure decreased to 60/40 mmHg and then to 50/30 mm Hg. Ephedrine hydrochloride 5mg and atropine 0.5 mg were administered intravenously. These drugs were repeated once more until vital signs improved. The patient was admitted to the hospital for further observations. The patient and her family declined any investigations despite repeated requests, therefore relevant skin testing to suspected allergens and other laboratory tests could not be performed.

## **DISCUSSION**

Allergic reactions range from mild to severe [2]. Severe cases are due to anaphylactoid or anaphylactic reactions. Clinical manifestations of both are usually similar requiring identical lines of immediate management [3]. It is important to identify the suspected agent causing anaphylaxis but this may not be possible [1]. The triggers of anaphylaxis during surgical procedures may include antibiotics [4]. Allergic reactions to all antibiotics have been reported irrespective of the route of administration [1,2,5]. Oral tetracycline is known to trigger allergic reactions [1,6,7] and oxytetracycline eye drops are reported to precipitate hypersensitivity as well [8]. Oxytetracycline eye ointment is frequently used following ophthalmic surgery and it is also recommended for treatment of superficial ocular infections involving the conjunctiva and cornea at several internet sites prepared for public health. However, it is considered to be a safe drug because no significant systemic reaction due to ointment administration has been described in the literature.

A diagnosis of anaphylaxis is usually made on interview, relevant tests and challenge [2]. Urticaria and angioedema may assist in the clinical diagnosis indicating an allergic reaction whereas rise in urinary and serum histamine and plasma tryptase levels may confirm it [1]. Symptoms occurring within seconds or minutes include respiratory distress, loss of consciousness, hypotension and cutaneous manifestations [1]. Among all, urticaria is the commonest manifestation (88%) followed by upper airway oedema (56%) [1]. There may be a relationship between the onset of symptoms after exposure and the severity of the episode [3].

Thus drugs such as eye ointments may be absorbed from the conjunctiva and rapidly enter the blood stream.

As proper study is impossible to conduct because of the nature of anaphylaxis and ethical reasons, management is based on clinical observation and animal models [1]. When the reaction is simple, administration of H<sub>1</sub> and H<sub>2</sub> blockers together may provide relief [1]. Administration of parenteral adrenaline (epinephrine) is indicated as the first-line drug for severe reactions and suspected anaphylaxis [1,3,9]. Adrenaline improves blood pressure by its inotropic and chronotropic effects. It also causes bronchodilation as well as reducing release of inflammatory mediators [10]. The correct route of administration and dose of adrenaline is controversial [1,7,10]. Intramuscular adrenaline is most preferred as its plasma concentration is higher than subcutaneous administration, but the intravenous route is critical in unresponsive patients [1,10]. The general recommendation for adrenaline is to use a 1:1000 dilution and 0.2-1.0 mg intramuscularly, in adults.<sup>1</sup> The dose may be repeated 2-3 times [1]. Other vasopressors such as ephedrine and dopamine may be the treatment of choice.<sup>1</sup> Atropine may be given for bradycardia [1]. Corticosteroids are used for prevention of recurrent or protracted anaphylaxis after 6-12 hours [1,3]. Nebulized beta-2 agonists, and intravenous aminophylline and glucagon may be considered. Intravenous access with a large bore cannula is essential for high volume fluid resuscitation, preferably crystalloids according to the UK Resuscitation Council anaphylaxis algorithms. The patient should be placed supine or in the Trendelenburg position with supplemental oxygen [1].

Our case exhibited the clinical features of a severe allergic reaction. Medical treatment was initiated immediately on clinical grounds. Application of eye ointment was the suspected cause of severe allergic reaction and management was initiated considering the urgency of the situation. The diagnosis of true allergy to oxytetracycline was not established in this case due to lack of the patient's co-operation despite repeated persuasions. But, informing patients about suspected allergens and referring them to a specialist for further investigation is essential.

The risk of unexpected events such as anaphylaxis to a frequently used topical drug should not be ignored even during a brief and simple procedure. Drugs and equipment for treating anaphylaxis must be available in all clinical areas. A person trained in resuscitation may be of benefit in area where patients are treated.

### **Acknowledgement**

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## **SURVEY OF BRITISH OPHTHALMIC ANAESTHESIA SOCIETY MEMBERS ON THE MANAGEMENT OF DIABETICS DURING AWAKE CATARACT SURGERY**

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Poor peri-operative blood sugar control in diabetic patients is of concern to anaesthetists and surgeons alike. The risk of undiagnosed hypoglycaemia is reduced with local anaesthesia but the risks of hyperglycaemia remain. We know that hyperglycaemia leads to dehydration and electrolyte imbalance. Levels above 11.1mmol/l are associated with impairment of phagocyte function and wound healing. We are unaware of any published data on acceptable blood sugar levels in patients undergoing awake cataract surgery.

**AIM:** To obtain a nationwide overview of the management of diabetic patients presenting for cataract extraction under orbital regional block.

**METHOD:** Questionnaires were mailed to 184 BOAS members. 82 forms were returned, reflecting a response rate of 45%. 6 were incomplete; the remaining 76 were valid.

### **RESULTS:**

#### ***Knowledge of guidelines:***

Only **21%** claim to be aware of guidelines on the management of such patients, with locally produced guidelines most frequently cited.

#### ***Levels causing most concern:***

28 respondents (37%) stated that their greatest concern was intra-operative hypoglycaemia. 31 respondents (41%) were more concerned about peri-operative hyperglycaemia. 10 respondents (13%) were concerned about both. 6 respondents (8%) were simply unconcerned.

**Patients on oral hypoglycaemic agents:**

66 respondents (87%) allow patients a normal meal with their usual medications. 7 respondents (9%) withhold the agent and fast the patient. 1 respondent (1.3%) allows the patient a light meal with usual medications, followed by a 2 hour NBM period.

**Patients on insulin therapy:**

63 respondents (83%) instruct patients to take their usual insulin with their usual meal.

5 respondents (6.6%) instruct patients to omit the morning insulin and fast the patient.

2 respondents (3%) instruct patients to reduce their insulin dose whilst fasting.

2 respondents (3%) instruct patients to reduce insulin with their usual meal.

2 respondents (3%) instruct patients to take their usual meal with the usual or a reduced insulin dose.

1 respondent (1.3%) would refer the patient to the physicians.

**Blood sugars which would lead to cancellation:**

Blood sugar (mmol/l)	Numbers cancelling surgery
2-5	2 (2.6 %)
6-10	0
11-16	1 (1.3 %)
17-22	23 (31%)
23-28	49 (65%)
29-34	60 (80%)
35-40	64 (85%)
None of the above	9 (12 %)

56% respondents have cancelled a patient on the grounds of poor diabetic control. Amongst them, it remains uncommon, with only 12 of the 42 cancelling at a frequency of once a year or greater.

**Blood glucose measurements:**

60 respondents (80%) check the blood glucose at pre-assessment. 67 respondents (89%) check the blood glucose immediately pre-operatively. Only 5

respondents (6.7%) check intra-operatively. 45 respondents (60%) check post-operatively.

**CONCLUSION:** Although there is general agreement on preoperative instructions and glucose monitoring there is considerable variation in the decision to proceed with surgery in hyperglycaemic patients. We recommend production of a consensus guideline on the management of diabetic patients undergoing cataract surgery under orbital regional block.

# PRE-OPERATIVE FASTING OF CATARACT PATIENTS PLANNED FOR LOCAL ANAESTHESIA: ARE WE FOLLOWING THE GUIDELINES?

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## SUMMARY

**Background:** Cataract patients are elderly and have multiple medical problems <sup>1</sup>. It has been a routine practice to fast them before surgery. Fasting could have adverse consequence to their general health <sup>2</sup>. In 2004 The Royal College of Ophthalmologists [RCOphth] in their guidelines recommended that fasting was not necessary for LA Cataract surgery <sup>3</sup>. The level of adherence to this policy remains unevaluated. We therefore conducted a telephone/email survey to evaluate the current level of adherence to RCOphth guidelines across different regions of the country.

**Method:** a telephone questionnaire survey was conducted focusing on policy regarding pre-operative fasting at different hospitals. In view of available resources, hospitals in 5 regions of England including Yorkshire, Mersey, Trent, Eastern and Midlands were contacted. Also Moorefields Eye Hospital in London, being the biggest eye hospital in the country, was

contacted. The questionnaire was filled in by speaking to consultants, staff grades, specialist registrars or specialist nurses both from anaesthesia and ophthalmology departments.

**Results:** We contacted 65 hospitals and obtained a response from 43 hospitals. Out of the surveyed hospitals 18.6% fasted their patients, 76.74% did not fast their patients and 4.65% had no common consensus regarding pre-operative fasting of LA cataract patients. The fasting details were 76.74% hospitals allowed unrestricted food and drinks, 11.62% hospitals allowed food and drinks up to 2-3 hrs before surgery and 6.97% fasted their patients as if for General Anaesthesia (GA) i.e. 6 hrs for solids and 2 hrs for clear fluids.

**Conclusion:** Only 76.74% hospitals were following the 2004 Royal College of Ophthalmologists guidelines regarding pre-operative fasting.

**Keywords:** Pre-operative fasting, cataract surgery, Local anaesthesia.

## INTRODUCTION

In 2004 the Royal College of Ophthalmologists had published guidelines for cataract surgery, which clearly states, "It is unnecessary to fast patients for local anaesthetic (LA) cataract surgery".<sup>3</sup>

In our hospital, cataract surgery patients scheduled to receive LA were being fasted for long periods. Cataract patients are mostly elderly and some of them suffer from diabetes, hypertension and ischaemic heart disease. Prolonged fasting may have deleterious effects on the fine control of their diseases.

We, therefore, conducted a survey to look into the adherence to the above guideline regarding pre-operative fasting both locally and in different regions of the country.

## **METHODS**

A questionnaire focusing on pre-operative fasting of local anaesthetic cataract patients was designed. A telephone survey was conducted to fill up the questionnaire. In a few cases, on the request of the respondent, the questionnaire was sent through e-mail. 65 hospitals including Yorkshire, Mersey, Trent, Eastern, London and Midlands regions covering a major part of England, were contacted. We filled questionnaires by speaking to consultants, staff grades, specialist registrars or specialist nurses who were regularly involved with ophthalmic surgery.

## **RESULTS**

Out of 65 hospitals contacted we obtained a response from 43 hospitals. We could not get a response from the remaining hospitals because the persons contacted were either busy in theatre or were unavailable.

Pre-assessment of cataract patients (Question 1): In all the hospitals, pre-assessment was done at a pre-operative visit i.e. the first visit when patient sees the surgeon and the surgeon decides if the patient needs surgery. Then patient at the same visit meets the specialist nurse, who fills health questionnaire and the patient is given a date for surgery.

Decision for GA (Question 2): On being asked, who decides if the patient would have a GA, 37% responded surgeons, 16% responded specialist nurses, 35% responded both. However 2% said it is LA unless the anaesthetist decides for GA on the day of surgery and 5% said it is LA unless the patient elects for GA.

Preferred LA technique (Question 3): The commonest LA technique adopted by the hospitals was subtenons (57%) followed by peribulbar block (29%) and topical anaesthesia (14%). None of the surveyed hospitals were performing retrobulbar blocks for cataract surgery.

Sedation in LA cataract surgery (Question 4): Sedation was never used in 28% of the surveyed hospitals due to prior problems caused by it. Sedation was rarely used in 67% hospitals. However only in 5 % hospitals is sedation often used depending upon the clinical needs. Those who gave sedation either used oral temazepam in the wards or I.V. midazolam in theatre.

Pre-operative fasting (Question 5): 18.6% hospitals fasted their patients, 76.74% hospitals did not fast their patients and 4.65% hospitals had no common consensus.

Duration of fasting (Question 6): On being asked we found that there was no difference in hospital policy for the morning and afternoon lists. The pattern of pre-operative fasting in the surveyed hospitals is given below.

Pre-operative Fasting	% of surveyed hospitals
Unrestricted food & drinks	76.74%
Light breakfast/lunch up to 2-3hrs before	11.62%
6 hrs for solids & unrestricted clear fluids	00.00%

6 hrs for solids, 2 hrs for clear fluids	6.97%
No common consensus	4.65%

Fasting in diabetic patients (Question 7): None of the surveyed hospitals had different criteria for fasting diabetic patients.

## **DISCUSSION**

The survey in 1999 on pre-operative fasting regimens before regional ophthalmic anaesthesia in three regions of the United Kingdom covering 50 hospitals showed 86% of the surveyed hospitals had a formal policy regarding pre-operative fasting, with 44% allowing patients to eat and drink freely until the operation. In those hospitals where fasting was imposed the most common fasting periods were 6 hours for solids and 2 hours for fluids<sup>2</sup>. In another follow up survey performed in 2001, the graphs showed 52-54% centres did not fast their patients for solids and 62-64% hospitals did not fast their patients for fluids<sup>4</sup>. In our 2004 survey 95.35% of the surveyed hospitals had a formal policy. Only 76.74% of the surveyed hospitals allowed their LA cataract patients to eat and drink freely. 18.6% fasted their patients and 4.65% had no common consensus.

2001 Joint Guidelines by the Royal College of Anaesthetists & Ophthalmologists pointed out that starvation is not necessary for conscious sedation. However in view of unexpected deeper sedation it is desirable to develop local protocols in conjunction with the department of Anaesthesia<sup>6</sup>. The 2004 Royal College of Ophthalmologists guidelines clearly stated, "It is unnecessary to fast patients for LA cataract surgery"<sup>3</sup>.

In 1997, an informal survey of the members of the Ophthalmic Anesthesia Society (OAS) revealed that the vast majority of the responders allowed patients to eat and or drink quite liberally prior to cataract surgery under regional or topical anaesthesia. Several indicated that there were no restrictions placed on these patients oral intake prior to surgery. In that survey, which represented the care of more than 800,000 patients, only one case of aspiration was reported in a patient who suffered cardiac arrest as the result of acute myocardial infarction and regurgitated during resuscitation.

In 2001, another survey of the members of the OAS was taken to see if attitudes regarding fasting of patients prior to cataract surgery had changed as a result of the publishing of ASA guidelines in 1999<sup>7</sup>. The vast majority of respondents (82.9%) did not follow the ASA guidelines regarding fasting prior to elective surgery under regional anaesthesia with monitored anaesthesia care. Eighty percent of the respondents allowed their patients to eat or drink something before arrival on the day of surgery, and over 11% have no restrictions on oral intake whatsoever. In a combined experience representing 300 years of practice and nearly 700,000 patients, the only case of aspiration occurred during a resuscitation attempt following cardiac arrest due to myocardial infarction.

In the last 2-3 decades there has been a move towards day case surgery due to the increasing proportion of elderly patients in the population. We have improved in surgical techniques and now we use small incision surgery with phacoemulsification where complete akinesia is not required and the aim of anaesthesia remains to provide pain free surgery. Anaesthetically therefore we have moved from GA to LA for cataract surgery. LA techniques have improved and there has been a transition from retrobulbar to peribulbar, and subtenons block or topical. The LA technique has also improved with the more frequent use of LA. These were probably the reasons behind the change in fasting guidelines by the Royal College of Ophthalmologists.

In the 1999 survey, when there were no guidelines regarding the duration of pre-operative fasting, 44% hospitals allowed their patients to eat and drink freely. The conclusion drawn from the 1999 survey was that there was a need for the expert body to make recommendations for national practice. Two years after the recommendations were made by the Royal College of Ophthalmologists we have succeeded in implementing the guidelines in 77% of the participating hospitals but 23% have yet to follow.

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## **APPENDIX**

## QUESTIONNAIRE

1. When is pre-assessment of cataract patients done in your hospital?

- a) At pre-operative visit                      b) on the day of surgery

2. Who does the pre-assessment?

- a) Surgeon                      b) Specialist Nurse                      c) other

3. Who decides if the patient would have general anaesthesia?

- a) Person doing pre-assessment      b) surgeon                      c) both

4. What is your preferred LA technique?

- a) Topical      b) Subtenon's      c) Peribulbar                      d) Retro bulbar

5. How often do you sedate LA cataracts?

- a) Often      b) Rare                      c) Almost none                      d) Never

6. In your hospital do you fast your patients for LA cataract?

- a) Yes    b) No  
c) No hospital policy (some Consultants do, some don't)

7. How long is the patient fasted for the morning list?

- a) Since midnight-solids, 2 hrs-clear fluids,

- b) Since midnight-solids, unrestricted clear fluids
- c) Light breakfast up to 2-3 hrs before
- d) Unrestricted food & drink

8. How long is the patient fasted for an afternoon list ?

- a) Early breakfast, 2 hrs-clear fluids,
- b) Light early breakfast, unrestricted clear fluids
- c) Allowed light lunch up to 2-3hrs before
- d) Unrestricted food & drinks

9. Are there any different fasting advices for diabetic patients?

- a) Yes
- b) No

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