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An Evaluation Of The Safety And Efficacy Of Sub-tenon's Local Anaesthesia Administered By Ophthalmic Anaesthetic Practitioners At Musgrove Park Hospital

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Introduction

The number of cataract surgeries performed across the UK is increasing significantly. With the limited availability of anaesthetists to cover this rising demand, non-medical practitioners have been trained to perform local anaesthesia for cataract surgery. In this audit, we evaluate the safety and efficacy of Sub-Tenon's local anaesthesia administered by Ophthalmic Anaesthetic Practitioners (OAPs) at our hospital.

Methods

Retrospective review of records of patients who had cataract surgery between 01/08/2021 and 31/03/2022. Data was extracted from MediSight and analysed using Medisight Audit suite.

3 OAPs performed the Sub-Tenon's blocks using Lidocaine 2% together with Hyaluronidase (150 units). The volume of the local anaesthetic was titrated to patients.

Results

1410 cataract surgeries were performed during the audited period. 75% of which were performed under local anaesthesia (Sub-Tenons). OAPs performed 78% of the blocks. Complications rate was as low as 5.5% (n=46) with sub-conjunctival haemorrhage alone being the most common (n=31). Other documented complications were conjunctival chemosis with sub-conjunctival haemorrhage (n=6), uncontrolled eye movement (n=5), conjunctival chemosis (n=2), tense orbit (n=1), and subconjunctival haemorrhage with uncontrolled eye movement (n=1).

38% of patients who developed sub-conjunctival haemorrhage were on either anti-coagulants or anti-platelet medications.

No surgeons commented that the complication made the surgery more challenging.

No patients re-presented to the eye clinic following an anaesthetic complication.

How do our results compare?

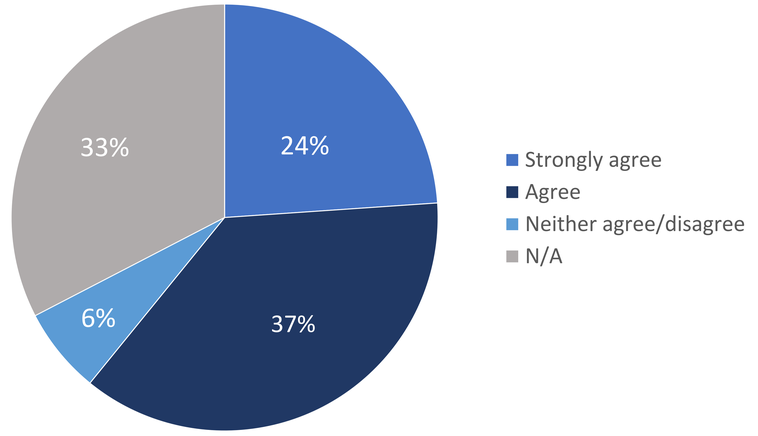
Waterman, H et al.	Musgrove Park Hospital
106 blocks	838 blocks
1 Nurse Practitioner	3 Nurse Practitioners
hyaluronidase (1500 IU) together with either: • prilocaine 3% with octapressin • prilocaine 4% • lignocaine 2% with 0.5% bupivacaine	hyaluronidase 150 units with Lidocaine 2%
Block Volume 3ml.	Volume titrated to patient

Complications

Conjunctival Chemosis	39.8%	Conjunctival Chemosis	0.2%
Surgeon assess pain relief as inadequate	8.1%	Conjunctival Chemosis and Sub-conjunctival haemorrhage	0.7%
Akinesia	7.1%	Tense Orbit	0.1%
Top up anaesthesia required	5.3%	Uncontrolled Eye Movement	0.6%
Patient reports Pain	3.3%	Sub-conjunctival haemorrhage and Uncontrolled Eye movement	0.1%
Sub-conjunctival haemorrhage (1 quadrant or more)	69.9%	Sub-conjunctival haemorrhage	3.7%
Systemic Reaction	0%	Systemic Reaction	0%

Patient Satisfaction

I am satisfied with my visual outcome following my surgery



Conclusion

OAPs are delivering the majority of the anaesthetic blocks needed for cataract surgery. The blocks are performed at high quality with only 0.7% of cases having uncontrolled eye movement. Low complication rate was recorded (5.5%) with no life or sight threatening complications. The results suggest that OAPs delivered sub-Tenon local anaesthesia is effective and safe.

References

Waterman H, Mayer S, Lavin MJ, Spencer AF, Waterman C. An evaluation of the administration of sub-Tenon local anaesthesia by a nurse practitioner. Br J Ophthalmol. 2002 May;86(5):524-6. doi: 10.1136/bjo.86.5.524. PMID: 11973246; PMCID: PMC1771137.