Local anaesthesia under sedation versus general anaesthesia for brachytherapy-treated patients with uveal melanoma: a patient-reported outcome study

Max Davidson[1], Alastair Glossop[2] & Hibba Quhill[1]

[1]Sheffield Ocular Oncology Service, Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, UK
[2]Department of Critical Care and Anaesthesia, Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, UK

BACKGROUND

- Ruthenium-106 brachytherapy for uveal melanoma has traditionally been performed under general anaesthetic (GA) in the UK.[1,2]
- Many ocular surgeries are safely performed under local (LA) or regional anaesthetic.
- In absence of clinical guidelines, patient experience and preference are important factors to consider when choosing mode of anaesthesia.

ADVANTAGES OF LOCAL/REGIONAL ANAESTHETIC

- Shorter hospital admissions[3]
- Fewer side effects eg. postoperative nausea, vomiting, drowsiness[3]
- Faster recovery and return to normal social activities by 1 day[4]
- May improve mortality in prostate cancer surgery[5]
- May lower recurrence rate in non-muscle invasive bladder cancer[5]

METHODS

- Patients recruited over 1 year (August 2022 to August 2023) – opportunistic
- Any patient scheduled on a list with HQ (operating surgeon) and AG (anaesthetist) would be offered LAS as an alternative to GA.
- As all other lists were GA-only, plaque-treated patients would often have one LAS experience and one GA experience.
- People who had ≥ 1 LAS operation were included.
- Telephone interview was conducted following discharge to provide feedback.

References

1. Damato B, Patel I, Campbell IR, Mayles HM, Errington RD. Local tumor control after 106Ru brachytherapy of choroidal melanoma. Int J Radiat Oncol Biol Phys. 2005; 63(2): 385–391.
2. Damato B, Heimann H. Personalized treatment of uveal melanoma. Eye (Lond). 2013; 27(2): 172–179.
3. Karaba VL, Elibol O. One-stage vs. two-stage adjustable sutures for the correction of esotropia. Strabismus. 2004; 12(1): 27–34.
4. Reece-Smith AM, Maggio AQ, Tang TY, Walsh SR. Local anaesthetic vs. general anaesthetic for inguinal hernia repair: systematic review and meta-analysis. Int J Clin Pract. 2009; 63(12): 1739–1742.
5. Lusty AJ, Hosier GW, Koti M, Chenard S, Mizubuti GB, Jaeger M, et al. Anesthetic technique and oncological outcomes in urology: A clinical practice review. Urol Oncol. 2019; 37(12): 845–852.

LOCAL ANAESTHESIA WITH SEDATION TECHNIQUE

- Continuous infusion IV remifentanil (1.2 – 2.6 ng/ml) + low-dose midazolam boluses (0.5mg per dose, max. total dose 2mg). 2 cases required additional sedation with 1% propofol.
- LA was achieved via 4-5ml posterior sub-Tenon injection of 50:50 mix of 2% lidocaine and 0.5% bupivacaine with adrenaline (1 in 200,000) with hyalase.
- All patients were advised they could request deeper sedation or conversion to GA at any point if concerned or uncomfortable.

RESULTS

- 15 patients (10 female, 5 male) consented to ≥ 1 LAS surgery.
- 5 had LAS during plaque insertion, 5 during plaque removal and 5 had LAS for both.
- 9 patients (60%) reported nil SE with either anaesthesia.
- 3 patients (20%) reported drowsiness/fatigue with both but specified less with LAS than GA. 1 patient reported coldness/shivering after GA but not after LAS.
- No cases of intraoperative pain and no conversions from LAS to GA.
- Every patient having LAS for plaque removal was discharged home on the same day.
- 14/15 patients (93%) would recommend LAS to friends & family, and would choose LAS again for future ocular surgery if given the choice.

CONCLUSIONS

- LAS for plaque surgeries is safe & effective. Regional anaesthesia may benefit the oncoimmunological response after urologic surgeries, but evidence is missing in ocular oncology patients.
- Strong patient preference towards LAS due to reduced SE and quicker recovery.
- The 10 patients that underwent 2 different types of anaesthesia were able to act as their own control – direct and relevant comparison between experiences that occurred within a week. The other 5 were so impressed by LAS following their 1st procedure that they requested it again for their 2nd.