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Simplified Anesthetic Management Protocol for Cataract Surgery at Hassan II Military Hospital – Laâyoune

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ABSTRACT

Objective: To propose a simplified anesthetic protocol for cataract surgery without systematic pre-anesthetic consultation (PAC), aimed at optimizing resources while ensuring patient safety.

Methods: A prospective study conducted over two years (2022–2024) in the Ophthalmology Department of Hassan II Military Hospital, Laâyoune. Patients without predefined risk factors were exempted from PAC. Local anesthesia was administered using topical anesthetic drops, occasionally complemented by sub-Tenon lidocaine 1%. An anesthesia nurse monitored the patient and managed minor intraoperative incidents.

Results: Among 853 cataract surgeries performed, 730 (86%) followed the simplified protocol. Intraoperative incidents were rare: seven hypertensive peaks, three cases of agitation, and no conversions to general anesthesia.

Conclusion: The simplified protocol proved safe and effective for the majority of patients, with a very low rate of incidents. It provides a pragmatic solution in contexts where anesthetic resources are limited.

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KEYWORDS:

cataract, local anesthesia, pre-anesthetic consultation, perioperative safety, simplified protocol.

INTRODUCTION

Cataract remains the leading cause of visual impairment worldwide and represents a major public health issue. Advances in both surgical and anesthetic techniques have made cataract surgery faster, safer, and more comfortable. Traditionally, a pre-anesthetic consultation (PAC) was mandatory before any surgical intervention. However, the scarcity of anesthesiologists and the simplification of surgical techniques have encouraged the development of streamlined approaches.

This study aims to assess the feasibility and safety of a simplified anesthetic management protocol in cataract surgery, tailored to the realities of healthcare systems with limited anesthetic resources.

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MATERIALS AND METHODS

A prospective study was carried out between 2022 and 2024 at the Ophthalmology Department of Hassan II Military Hospital in Laâyoune.

Patients with no major comorbidities and no anticipated surgical difficulties were operated on without a PAC. Local anesthesia was achieved using topical drops (Cébésine), occasionally supplemented with a sub-Tenon injection of 1% lidocaine.

Perioperative monitoring was ensured by a qualified anesthesia nurse authorized to handle minor incidents, under the supervision of an anesthesiologist on standby.

RESULTS

A total of 853 cataract surgeries were performed, 730 (86%) of which followed the simplified protocol. Intraoperative incidents were uncommon and mild.

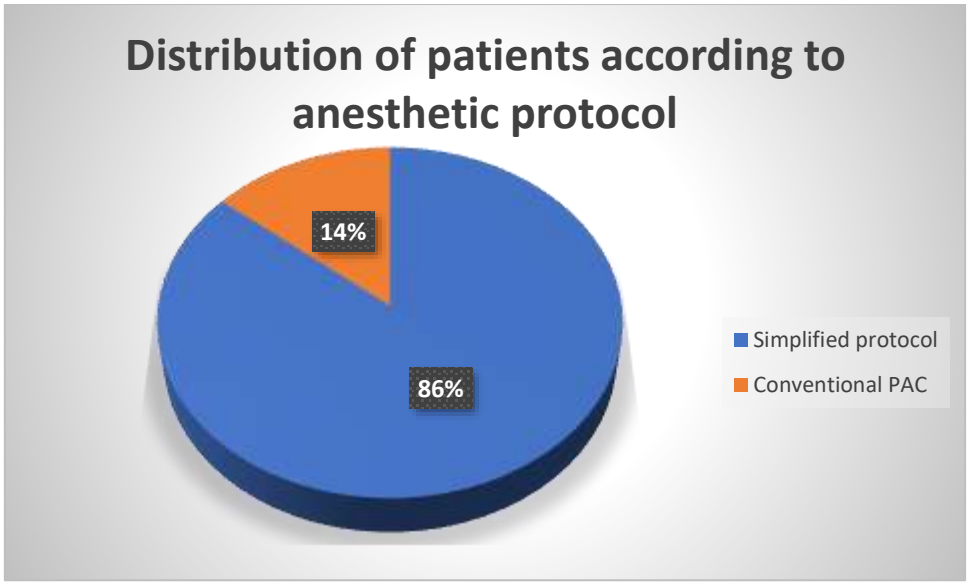

Figure 1. Distribution of patients according to anesthetic protocol
(Simplified protocol: 86%; Conventional PAC: 14%)

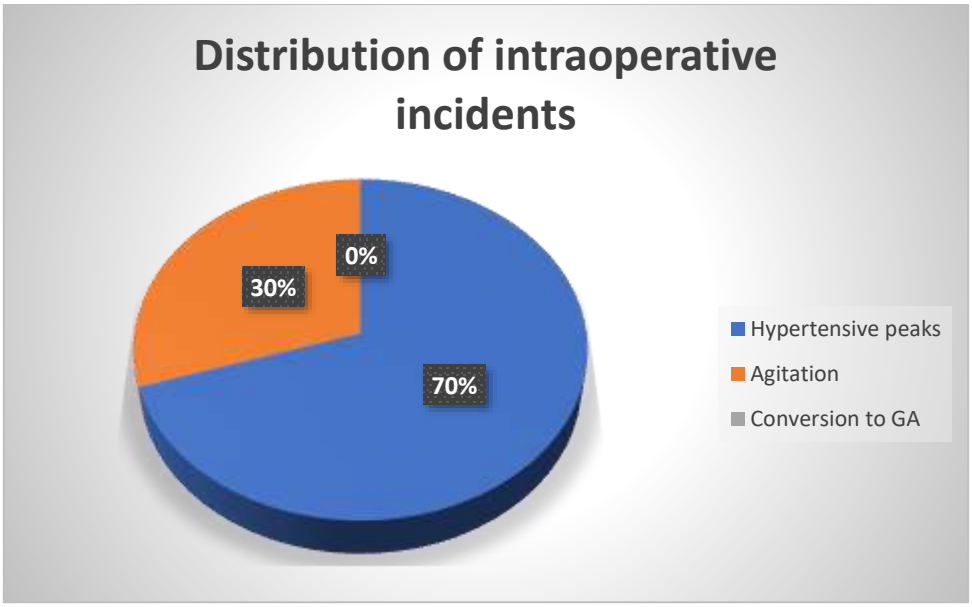

Figure 2. Distribution of intraoperative incidents
(Hypertensive peaks: 70%; Agitation: 30%; Conversion to GA: 0%)

DISCUSSION

Our findings demonstrate that implementing a simplified anesthetic protocol for cataract surgery is both feasible and safe in a hospital setting with limited anesthetic resources. The absence of major complications and the low incidence of intraoperative events (10 out of 853 cases) underscore the effectiveness of the approach and the importance of patient selection.

These results are consistent with those of **Kumar et al. [1]** and **Segers et al. [3]**, who reported that well-conducted topical or sub-Tenon anesthesia provides a safety profile comparable to conventional regional anesthesia, while reducing operative time and the demand for anesthesiology staff. Our experience aligns with the global trend toward rationalizing care delivery without compromising safety or quality.

Another noteworthy aspect is the central role of the **anesthesia nurse**.

Properly trained to detect and manage minor incidents such as transient hypertension or mild agitation, the nurse becomes a pivotal player in intraoperative safety. This collaborative model—supervised by a consulting anesthesiologist available when needed—ensures both safety and efficiency. As highlighted by **Palte [4]**, such team-based anesthesia management is increasingly being adopted in ophthalmic surgery centers in North America and could serve as a model for other low-resource healthcare systems.

From an **organizational standpoint**, the simplified protocol offers significant logistical advantages.

It eliminates unnecessary preoperative consultations, reduces waiting times, optimizes operating room turnover, and improves patient flow. These benefits translate into cost savings and increased satisfaction for both patients and staff. Economic evaluations by **Perumal et al. [5]** have shown a 15–20% reduction in total procedural costs when streamlined anesthetic models are implemented.

However, several **limitations** must be acknowledged. This study was conducted in a single specialized hospital, with trained personnel familiar with this approach. The generalization of such a protocol would require standardized training and supervision to maintain safety. Moreover, patients with significant comorbidities (cardiac, respiratory, or neurological) must still undergo a full pre-anesthetic evaluation. The simplified protocol should therefore be viewed not as a universal replacement but as a targeted, evidence-based optimization tool.

Patient satisfaction in our experience was excellent, reflecting reduced anxiety and improved postoperative comfort. Similar observations were reported by **Upadhyay et al. [2]**, who demonstrated that topical anesthesia fosters better patient cooperation and faster recovery. Future work should include standardized satisfaction questionnaires and cost-effectiveness analyses to further validate the approach.

In summary, our experience supports the adoption of a **simplified anesthetic management protocol for cataract surgery** as a safe, efficient, and context-appropriate alternative.

Its success depends on three essential pillars: **careful patient selection**, **adequate training of anesthesia nurses**, and **close collaboration between surgeon and anesthesiologist**. Broader implementation could enhance surgical efficiency and accessibility in ophthalmic care across Morocco and similar healthcare systems.

CONCLUSION

The simplified anesthetic management protocol for cataract surgery is safe, effective, and adaptable to low-resource environments.

Its application should remain limited to well-selected patients, under the supervision of a qualified anesthesia team, with continuous evaluation of outcomes and safety indicators. This approach represents a promising strategy for improving ophthalmic surgical care delivery in developing healthcare systems.

Author Contributions

Dr. BOUI Hatim : conception, data analysis, manuscript drafting.

Dr. FILALI Zineb : data collection, critical revision.

Dr. Hanine Mohamed Amine : data collection, critical revision.

All authors approved the final version of the manuscript.

Conflict of Interest Statement

The authors declare no conflict of interest related to this study.

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