

How to manage the cataract with nystagmus under topical anesthesia: A case report

Göksu Alaçamlı¹ 

¹ Trakya University, Faculty of Medicine, Department of Ophthalmology, Edirne, Türkiye

Received: 9 July 2023

Accepted: 15 August 2023

Published: 3 October 2023

Correspondence:

Dr. Göksu ALAÇAMLİ

Trakya University, Faculty of Medicine,
Department of Ophthalmology, Edirne,
Türkiye.

E-mail: goksualacamlı@yahoo.com



How to cite this article:

Alaçamlı G. How to manage the cataract with nystagmus under topical anesthesia: A case report. J Med Dent Invest 2023;4:e230329.
<https://doi.org/10.5577/jomdi.e230329>

Abstract

In the case, we aim to point out the way to manage the cataract with nystagmus under topical anesthesia in phacoemulsification surgery. A 62-year-old female patient came to department of ophthalmology in January 2020 with a complaint of blurry vision in her right eye for a year. The observed visual acuity of the subject's right eye was measured to be 0.15. During the biomicroscopic examination, the presence of bilateral nystagmus and cortical cataract was observed. The iris and retina were found to be undamaged. No lens subluxation was seen. Under topical anesthesia in phacoemulsification surgery, globe stabilization was provided by holding the conjunctival pouch with one hand and with the other hand, capsulorhexis, the most critical part of the operation was achieved. The case we present is close to point out the easy method to explain to manage this kind of cataracts.

Keywords: Phacoemulsification, nystagmus, eye, involuntary eye movements, cataract

Introduction

Although there are various anesthesia methods preferred by surgeons during phacoemulsification, most surgeons prefer topical anesthesia in adult and mentally stable cases [1].

The short operation time and the fact that the patient does not involuntarily increase him/herself

intraocular pressure during awakening by gagging of coughing reflex at the end of the general anesthesia, are the main reasons for preference for the surgeons, local anesthesia to general anesthesia during phacoemulsification. Topical, peribulbar, and retrobulbar anesthesia are the types of local anesthesia used in phacoemulsification. In peribulbar and retrobulbar anesthesia, while the application of the anesthetic solution, there is always a risk of making an



This is an Open Access article distributed under the terms of the Creative Commons Attribution Non- Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non- commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

injury to the ocular globe and its' perifer vessel or the other tissues. Peribulbar and retrobulbar anesthesia can be preferred when especially globe stabilization is requested for patients who are close to unstable their eyes during the surgery [2, 3, 4]. If the cataract is with involuntary eye movements like nystagmus in adult patients, most of ophthalmic surgeons are close to prefer general anesthesia for their comfort during the operation. A rare part of surgeons prefers peribulbar and retrobulbar anesthesia, which stabilize the globe and block eye movements by causing the cranial nerves paralysis for a period of time for the cataracts with nystagmus [2, 3].

In the case we present, we aim to point out the way to manage the cataract with nystagmus under topical anesthesia in phacoemulsification surgery.

Case Report

In January 2020, a 62-year-old female applied to our ophthalmology department with a complaint of blurred vision in her right eye for one year. The visual acuity of the case was 0.15 on the right eye. In the biomicroscopic examination, bilateral nystagmus, and cortical cataract was noted. Iris and retina were intact. There was no lens subluxation.

The patient was planned to be operated on with the phacoemulsification technique under topical anesthesia. Proparacaine 0.5% was applied two times in 5 minutes. After drape covering and insertion of an eye speculum, 0,5 cc anesthetic injection of the solution (20 mg/ml Lidocaine Hydrochloride and 0.0125 mg/ml Epinephrine) was applied under the inferior limbal conjunctiva for subconjunctival anesthesia (Fig. 1).



Figure 1. 0,5 cc anesthetic injection of the solution (20 mg/ml Lidocaine Hydrochloride and 0.0125 mg/ml Epinephrine) was applied under the inferior limbal conjunctiva for subconjunctival anesthesia

In this way, either advanced anesthesia to topical anesthesia or a conjunctival pouch for enabling it to be held loosely and without feeling pain by using

conjunctival forceps was provided. Both side-port and main wound site entrances with blades were provided by holding the conjunctival pouch by a conjunctiva penset (Fig. 2).

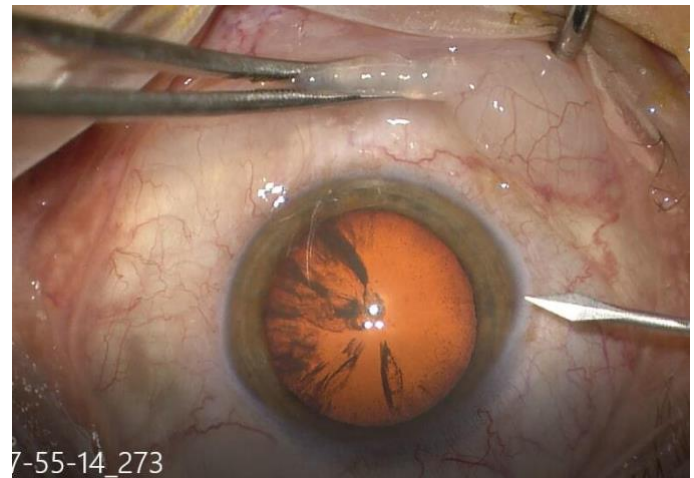


Figure 2. Both side-port and main wound site entrances with blades were provided by holding the conjunctival pouch by a conjunctiva penset

The patient did not feel any pain by this maneuver because the pouch was inflated by an anesthetic solution. Conjunctival pouch provides looseness when holding the conjunctiva for globe stabilization. It's always difficult and unsuccessful to hold a tight conjunctiva rather than loose one. After filling the anterior chamber with viscoelastic, globe stabilization was provided by holding the conjunctival pouch with one hand and, with the other hand, capsulorhexis, the most critical part of the operation was achieved (Fig. 3).

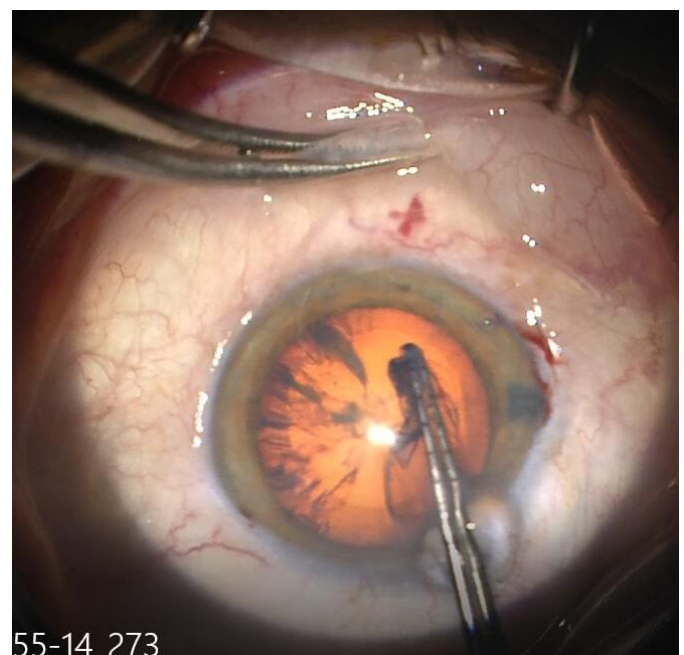


Figure 3. Globe stabilization was provided by holding the conjunctival pouch with one hand, and with the other hand, capsulorhexis, the most critical part of the operation was achieved

When phaco handpiece and chopper or bimanual irrigation/aspiration were used, there was no need to hold the conjunctival pouch because bimanual maneuver in both phacoemulsification and irrigation/aspiration is enough to stabilize the globe despite the nystagmus (Fig. 4).



Figure 4. Bimanual maneuver in both phacoemulsification and irrigation/aspiration is enough to stabilize the globe

Intraocular lens (IOL) was implanted when the injector of IOL was leaned to the main phaco entrance, and this maneuver was used to stabilize the globe at the same time. Bimanual irrigation/aspiration was provided to stabilize the globe and finish the cortex aspiration. Visual acuity of the case was 0.5 on the right eye at the first month of the operation. The patient had amblyopia because of her nystagmus.

Discussion

Subconjunctival anesthetic injection to inferior limbal conjunctiva provides a conjunctival pouch, which provides a conjunctival protrusion that is easy to hold and enables the globe until phacoemulsification starts, especially during capsulorhexis for all topical cataract operations, especially the ones with nystagmus, of the patients out of cooperation and close to make Bell phenomenon. Holding the globe by side-port entrance locations may cause the enlargement of the side-port site. Also, this maneuver can be dangerous about the risk of slippage of the penset to the anterior chamber, which can damage the iris or anterior capsule [5].

The only limitation of this method is that it can appear to cause frequent subconjunctival hemorrhages because of the damaging the conjunctival vessels during

holding the conjunctiva (Fig. 4). Subconjunctival hemorrhage heals spontaneously in two weeks.

Conclusion

In the literature, we could not find an article or case report that shows a specific technical way to manage the patients' cataracts with involuntary eye movements like nystagmus. The case we present is close to point out the easy method to explain how to manage this kind of cataracts.

Disclosures

Informed Consent: Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - G.A.; Design - G.A.; Supervision - G.A.; Materials - G.A.; Data collection &/or processing - G.A.; Analysis and/or interpretation - G.A.; Literature search - G.A.; Writing - G.A.; Critical review - G.A.

Conflict of Interest: There is no any conflict of interest.

Funding: There is no any funding.

References

1. Olson RJ. Cataract Surgery From 1918 to the Present and Future-Just Imagine! Am J Ophthalmol 2018;185:10-13. <https://doi.org/10.1016/j.ajo.2017.08.020>
2. Rizvi Z, Rehman T, Malik S, Qureshi A, Paul L, Qureshi K, Memon S, Rafi S, Ali A. An evaluation of topical and local anesthesia in phacoemulsification. J Pak Med Assoc 2003;53(4):167-70.
3. Weigt HU, Spraul CW, Weiss M. Was gibt es Neues in der Ophthalmoaanästhesie? [What's new in ophthalmic anesthesia?]. Klin Monbl Augenheilkd 2003;220(12):809-21. German. <https://doi.org/10.1055/s-2003-812559>
4. Waheeb S. Topical anesthesia in phacoemulsification. Oman J Ophthalmol 2010;3(3):136-9. <https://doi.org/10.4103/0974-620X.71892>
5. Sethi HS, Dada T, Rai HK, Sethi P. Closed chamber globe stabilization and needle capsulorhexis using irrigation handpiece of bimanual irrigation and aspiration system. BMC Ophthalmol 2005 18;5:21. <https://doi.org/10.1186/1471-2415-5-21>