Medical and Research Publications
International Open Access

Research Article **Journal of MAR Case Reports (Volume 4 Issue 2)**

Prevalence of Local Anesthesia for Cataract and Lens Operation in Iraq

Dr. Saad Kadhom Hamid Al-Zawi*

Corresponding Author: Dr. Saad Kadhom Hamid Al-Zawi, MBCHB. High Diploma of Anesthesia. Iraqi Ministry of Health. Baghdad-Iraq.

Received Date: January 17, 2022

Published Date: February 01, 2022

Abstract

The ideal anesthetic would provide adequate pain relief during surgery and postoperative, be easy to administer and have minimal complications. This study aimed to identify the rate of local anesthesia which is used for cataract surgery during the study period. A retrospective cross-sectional study was carried out at the Life Statistics Center of the Iraqi Ministry of Health for 5 years. The study samples were 235719. Data were entered into an Excel sheet and the STATA software program was used to analyze this data. A higher percentage 44.1% of cases were used local anesthesia during 2020, followed by 16.4% in 2019 and 14.1%, 12.9%, 12.5% in 2018, 2017 and 2016 respectively. Female cases 63.7% were more than 36.3% male cases. The rate of local anesthesia was higher in 2020, more than in other years. However, further research in this area, which would include preference values collected from patients and additional clinical evaluation, is warranted before any conclusion can be reached.

Keyword: *Local anesthesia, Lens, Operation, Cataract, Rate.*

Introduction

In recent years, there have been significant changes in cataract operations [1]. More cataract surgeries are been performed more efficiently and with better results than ever more [2]. Most cataract surgeries were performed using large-incision extracapsular techniques and general anesthesia was used for over half of all cases [3]. Now the vast majority of these operations are performed under local anesthesia and using the small incision phacoemulsification techniques [4]. Anesthesia for cataract surgery has also changed dramatically [5]. Not only has there been a move from general (46% in 1992) to regional/local anesthesia (95.5%), but the specific type of local anesthetic technique has also changed [6-7]. Two national audits from the Royal College of Ophthalmologists (in 1996 and 2003) documented a decrease in both peribulbar and retrobulbar techniques (from 65% to 30.6% and from 15% to 3.5%, respectively) with a corresponding increase in topical (from 4.1% to 20.9%) and sub-Tenon's techniques (from 7% to 42.6%) [5,8].

In cataract surgery, the patient who is undergoing cataract surgery and the ophthalmic surgeon, who is going to operate, can decide the type of anesthesia [9]. For the same patient, different surgeons may select different techniques of anesthesia [9]. The skill and experience of the surgeon, co-operation of the patient, type of cataract, associated ocular co-morbidity like corneal opacity, pupillary dilatation, etc. are important factors while deciding upon the type of anesthesia [10]. Studies have shown different trends in different countries. A national postal survey was conducted in 2008 in the United Kingdom for the choice of local anesthetic techniques [11]. Sub-Tenon's anesthesia was the local anesthetic technique of choice (47% compared to topical 33%, peribulbar 16%, retrobulbar 2%, and others 2%)[12]. Of sub-Tenon blocks, 28% were given by surgeons and 47% by the anesthetist [13]. A similar survey done in Singapore in 2004 showed 92% of cataract extraction was done by phacoemulsification technique. For the phacoemulsification technique, the anesthetic technique of choice was peribulbar anesthesia (43%) [14]. A survey of members of the American Society of Cataract and Refractive Surgeons (ASCRS) in 2000 revealed an increase in the use of topical anesthesia among surgeons [15]. In Oman, over the last few years, anesthesia for cataract surgery has shifted from general to local anesthesia [16]. This study aimed to identify the rate of local anesthesia which is used for cataract surgery during the study period.

Methodology

A retrospective cross-sectional study was carried out at the Life Statistics Center of the Iraqi Ministry of Health for 5years, starting from 2016 up to 2020. During this period, the study samples were 235719. Data were entered into an Excel sheet and the STATA software program was used to analyze this data and make tables and graphs.

Results

Out of 235719 patients with cataract and lens operation, the higher percentage 44.1% occurred during 2020, followed by 16.4% in 2019 and 14.1% ,12.9% ,12.5% in 2018, 2017 and 2016 respectively [Table1]. In [Table 2] shows the female cases 63.7% were more than 36.3% male cases. The rate of local anesthesia was higher 2590 per 1000000 in 2020, followed by 1151 in 2016 and 1074 in 2017[Figure 1].

Table 1: Distribution of local anesthesia among patients with cataract and lens operation during 5 years

Years	Frequency	Percent
2016	29415	12.5
2017	30439	12.9
2018	33257	14.1
2019	38622	16.4
2020	103986	44.1
Total	235719	100

Table 2: Distribution of studied sample according to gender

Gender	Frequency	Percent
Male	85508	36.3
Female	150211	63.7
Total	235719	100

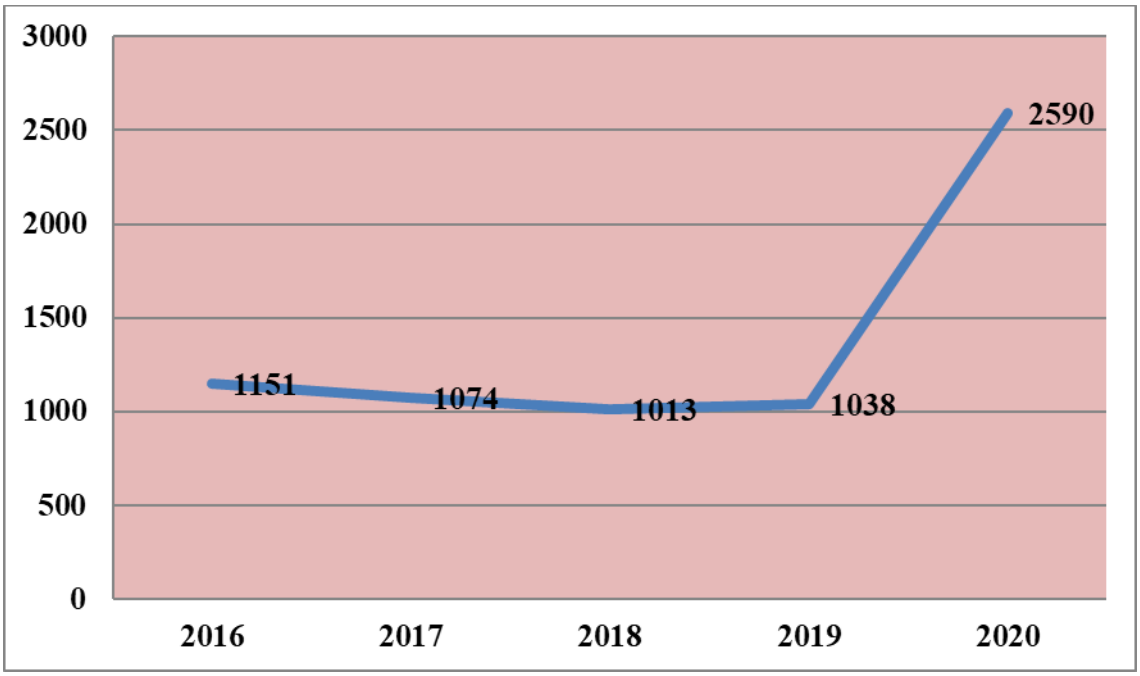

Figure 1: Rate of local anesthesia among patients with cataract and lens operation

Discussion

This study aimed to identify the rate of local anesthesia which is used for cataract surgery and lens operation during the study period. In this study we found 44.1% of cases that using local anesthesia for cataract surgery during 2020, followed by 16.4% in 2019 and 14.1%, 12.9%, 12.5% in 2018, 2017 and 2016. In an observational study conducted in the UK, the authors found that cataract surgery comprised 4.1% general anesthesia, 92.1% LA without sedation and 3.9% LA with sedation **[**5**]**. Lee et al reported that cataract surgery comprised 3.4% general anesthesia, 92.5% LA alone and 4.1% LA with sedation. Techniques for the estimated 357 000 LA cataracts were: 8.8% peribulbar, 1.3% retrobulbar, 50.5% sub-Tenon's, 1.4% subconjunctival, 13.8% topical, 24.2% topical-intracameral LA**[**17**]**.

There is no single mode of anesthesia that can serve as a universal choice for all patients and surgeons. The selection and execution of anesthesia during cataract surgery will depend on the patient factors, the surgeon's level of expertise, and the surgery facility. The use of general anesthesia for cataract surgery appears to be limited to special cases. There were no RCTs available that compared general to local anesthesia in cataract surgery published in the last 5 years. Although review articles identify patient populations for which general anesthesia would be suitable, regional (e.g peribulbar, and sub-Tenon's anesthesia) and topical anesthesia appears to be the preferred anesthesia for cataract surgery **[**18-19**]**.

Going by traditional and common understanding, the female gender is associated with being fragile, more sensitive to pain and less tolerant to pain when compared to the male gender. Being a common belief and understanding, the health care provider may also share the same view and there may be a difference in the pain management provided **[**20-21**]**. During cataract surgery, pain management is not only important from the patient's point of view but also the surgical outcome may be adversely affected due to an uncooperative patient suffering from pain during the procedure. Our study found the female cases 63.7% were more than 36.3% male cases. Previous studies suggest that women recover faster from any type of anesthesia than men, but it is unclear whether this is a result of a gender effect or differences in the pattern of drug administration or type of surgery**[**22**]**.

The rate of local anesthesia was higher 2590 per 1000000 in 2020, followed by 1151 in 2016 and 1074 in 2017. A prospective study included 63 eyes from 63 patients, the authors reported there were 32 men (50.7%) and 31 women (49.2%). The cataract type distribution was as follows: WMC, n =21; PSC, n=20; CN + PSC, n=22**[**23**]**.

Conclusion

We concluded the female cases were more than male cases. A higher percentage of local anesthesia was used for cataract patients and lens operation occurred during 2020. The rate of local anesthesia was higher in 2020.

Recommendation

There is a clear need for information on patient preferences for different anesthesia management strategies and outcomes. However, further research in this area, which would include preference values collected from patients and additional clinical evaluation, is warranted before any final conclusion can be reached.

Conflict-of-interest statement: The author declares that there is no conflict of interest regarding the publication of this paper.

References

1.Thevi T, Godinho MA. Trends and complications of local anaesthesia in cataract surgery: an 8-year analysis of 12992 patients. Br J Ophthalmol 2016; 100(12): 1708-1713.

2.Wang BZ, Casson R. Systematic Review of Peribulbar Anesthesia Versus Sub- Tenon Anesthesia for Cataract Surgery. Asia Pac J Ophthalmol (Phila) 2012; 1(3): 170-4

3.Bensghir M, Badou N, Houba A, Balkhi H, Haimeur C, Azendour H. Convulsions during cataract surgery under peribulbar anesthesia: a case report. J Med Case Rep 2014 23; 8: 218.

4.Kim MJ, Jain S. What makes a good operation great? Factors determining patient satisfaction with local anaesthesia incataract surgery. Eye (Lond) 2013; 27(9): 1114.

5.Eke T, Thompson JR. Serious complications of local anaesthesia for cataract surgery: a 1 year national survey in the United Kingdom. British Journal of Ophthalmology. 2007 Apr 1;91(4):470-5.

6.Courtney P. The National Cataract Surgery Survey: I. Method and descriptive features. Eye 1992; 6: 487 – 92

7.El-Hindy N, Johnston RL, Jaycock P, et al. UK EPR user group. The Cataract National Dataset electronic multi-centre audit of 55,567 operations: anaesthetic techniques and complications. Eye 2009; 23: 50–5

8.Eke T, Thompson JR. The National Survey of Local Anaesthesia for Ocular Surgery. II. Safety profiles of local anaesthesia techniques. Eye 1999; 13: 196 – 204.

9.Chandradeva K, Nangalia V, Hugkulstone CE. Role of the anaesthetist during cataract surgery under local anaesthesia in the UK: a national survey. British journal of anaesthesia. 2010 May 1;104(5):577-81.

10.Al-Dolat W, Alqudah NM, Atoum D, Al-Omari R, Khatatbeh M. Preferred Surgical and Anesthesia Techniques for Cataract Surgery in Jordan. Clinical Ophthalmology (Auckland, NZ). 2021;15:4259.

11.Vohra SB, Murray PI . Sub-tenon's block: a national United Kingdom survey. Ophthalmic Surg Lasers Imaging 2008; 393: 79–85.

12.Kumar, C., Eid, H. & Dodds, C. Sub-Tenon's anaesthesia: complications and their prevention. Eye 25, 694–703 (2011).

13.Davison M, Padroni S, Bunce C, Rüschen H. Sub-Tenon's anaesthesia vs topical anaesthesia for cataract surgery. Cochrane Database Syst Rev 2007; (3): CD006291.

14.Wagle AA, Wagle AM, Bacsal K, Tan CS, Chee SP, Au Eong KG. Practice preferences of ophthalmic anaesthesia for cataract surgery in Singapore. Singapore medical journal. 2004 Apr 1;48(4):287.

15.Leaming DV. Practice style and preferences of ASCRS members - 2000 survey J Cataract Refract Surg. 2001;27:948–55

16.Shah R. Anesthesia for cataract surgery: Recent trends. Oman J Ophthalmol 2010; 3(3): 107-108.

17.Lee RM, Thompson JR, Eke T. Severe adverse events associated with local anaesthesia in cataract surgery: 1 year national survey of practice and complications in the UK. Br J Ophthalmol 2016; 100(6): 772-6.

18.Navaleza JS, Pendse SJ, Blecher MH. Choosing anesthesia for cataract surgery. Ophthalmol Clin North Am 2006;19(2):233-7. 3.

19.Eichel R, Goldberg I. Anaesthesia techniques for cataract surgery: a survey of delegates to the Congress of the International Council of Ophthalmology, 2002. Clin Experiment Ophthalmol 2005;33(5):469-72.

20.Gupta SK, Kumar A, Agarwal S. Cataract surgery under topical anesthesia: Gender-based study of pain experience. Oman J Ophthalmol. 2010 Sep;3(3):140-4.

21.Weisse CS, Sorum PC, Dominguez RE. The Influence of Gender and Race on Physicians' Pain Management Decisions. J Pain. 2003; 4:505–10.

22.Daniela Filipescu, Mihai Ştefan. Sex and gender differences in anesthesia: Relevant also for perioperative safety. Best Practice & Research Clinical Anaesthesiology, Volume 35, Issue 1, 2021, Pages 141-153.

23.Apil A, Kartal B, Ekinci M, Cagatay HH, Keles S, Ceylan E, Cakici O. Topical anesthesia for cataract surgery: the patients' perspective. Pain Res Treat 2014; 2014: 827659.