

ORIGINAL ARTICLE

PATIENT AND SURGEON'S COMFORT FOR TOPICAL ANESTHESIA AS COMPARED TO PERIBULBAR ANESTHESIA FOR CATARACT SURGERY DONE BY PHACOEMULSIFICATION

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ABSTRACT: PURPOSE: To evaluate the patient and surgeons comfort for topical anesthesia as compared to peribulbar anesthesia for cataract surgery done by phacoemulsification. **SETTING:** Ophthalmology Department, Mahatma Gandhi Medical College & Hospital, Sitapura, Jaipur. **METHOD:** We had taken 120 patients age 40 years or more, both male & female with senile cataract attending our eye OPD of Mahatma Gandhi Medical Collage & Hospital, Jaipur. 120 patients who had undergone phacoemulsification were divided in two groups (Group A =60, Group B =60) randomly. 60 patients who had undergone surgery under topical anesthesia (Group A) were compared with another 60 patients who had undergone surgery under peribulbar anesthesia (Group B) by one doctor. Pain perception was assessed on administration of anesthesia and intraoperatively using a verbal pain score (0= no pain, 1= mild pain, 2= moderate pain, 3= severe pain which requires additional analgesia or increase the dose of local anesthesia). Patient and surgeons comfort was also assessed verbally. **RESULT:** The study used 120 eyes, 60 in each group A & B. Administration of topical anesthesia was significantly less painful and provides less discomfort then peribulbar anesthesia. Intraoperatively, feeling of pain and discomfort were slightly higher in topical anesthesia as compared to peribulbar anesthesia but this was not significant statistically. **CONCLUSION:** Cataract surgery done under topical anesthesia by phacoemulsification is thus considered safe and effective. **FINANCIAL DISCLOSURE:** No author has a financial or property interest in any material or method mentioned.

INTRODUCTION: Good anesthesia is essential for the performance of safe intraocular surgery. Anesthesia for cataract surgery today aims at creating a comfortable environment for the patient and the surgeon during surgery and a quick recovery of function without Inherent added risks. Peribulbar injection of anesthetic agents has been used for more than a century in cataract surgery and various modifications have been devised over the last two decades to reduce the risks of injury of intraorbital structures during surgery. Topical anesthesia was first used in 1884 by Koller who used cocaine ¹. After one century, Fichman used an attractive alternative method of injecting local anesthetic agents resulting in faster visual recovery and high patient satisfaction 1995 ². Topical anesthesia has steadily gained popularity due to speed and ease of administration, rapid visual recovery postoperatively and the lack of block-related complications. Furthermore it is believed that patients feel less discomfort and pain.

AIMS AND OBJECTIVE: To evaluate the patient and surgeons comfort for topical anesthesia as compared to peribulbar anesthesia for cataract surgery done by phacoemulsification.

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MATERIAL AND METHOD: We had taken 120 patients age 40 years or more, both male & female with senile cataract attending our eye OPD of Mahatma Gandhi Medical Collage & Hospital, Jaipur. 120 patients who had undergone phacoemulsification were divided in two groups (Group A =60, Group B =60) randomly. 60 patients who had undergone surgery under topical anesthesia (Group A) were compared with another 60 patients who had undergone surgery under peribulbar anesthesia (Group B) by one doctor. Pain perception was assessed on administration of anesthesia and intraoperatively using a verbal pain score (0= no pain, 1= mild pain, 2= moderate pain, 3= severe pain which requires additional analgesia or increase the dose of local anesthesia). Patient and surgeons comfort was also assessed verbally.

RESULTS: In (Table 1) 14 patients feel pain during the administration of topical anesthesia and 35 patients feel pain during the administration of peribulbar anesthesia. Intraoperatively (Table 2) 10 patients feel pain with topical administration and 7 patients feel pain with peribulbar administration of anesthesia. In (Table 3) 12 patients feel discomfort during the administration of topical anesthesia and 28 patients feel discomfort during the administration of peribulbar anesthesia. Intraoperatively, 15 patients feel discomfort with topical administration and 11 patients feel discomfort with peribulbar administration of anesthesia. In (Table 4) 14 patients had unwanted ocular movements and 15 patients were uncooperative with topical administration and with peribulbar administration of anesthesia 4 patients had unwanted ocular movements and 5 patients were uncooperative. Administration of topical anesthesia was significantly less painful and provides less discomfort than peribulbar anesthesia. Intraoperatively, feeling of pain and discomfort were slightly higher in topical anesthesia as compared to peribulbar anesthesia but this was not significant statistically. Surgeon's satisfaction was 75% in the topical group and 85% in the peribulbar group.

DISCUSSION: The main advantages of cataract surgery without retrobulbar or peribulbar anesthesia are the rapid recovery of vision and the elimination of complications associated with the introduction of a needle into the orbit, such as retrobulbar hemorrhage, palpebral hematoma, optic nerve lesions, ocular perforation, diplopia, and respiratory arrest^{3,4}. However, phacoemulsification with topical anesthesia also has disadvantages including the need for greater patient cooperation and limitation of ocular and palpebral mobility during surgery. Poor cooperation can be reduced by careful patient selection. Inadvertent ocular movement and pressure for palpebral closure can be assessed during the tonometry and biometry examinations. Communication with the patient is crucial to the success of topical anesthesia. Patients should be informed they will not be able to move their eyes during surgery and that they might feel some sensation. Although most patients under topical anesthesia tolerate the surgical procedure well, the light of the microscope and some surgical steps (e.g. iris manipulation, globe expansion with irrigation, and IOL implantation) are associated with discomfort^{5,6}. An important criticism of the use of topical anesthesia for intraocular surgery is that its analgesic effect may be less than that of peribulbar or retrobulbar anesthesia. However, it is difficult to compare the pain induced by different surgical modalities because pain is a subjective sensation that is highly dependent on the patient's emotional state and cultural background. In the present study, we compared the pain between patients who had phacoemulsification with topical anesthesia and patients who had phacoemulsification with peribulbar anesthetic infiltration. Administration of topical anesthesia was significantly less painful and provides less discomfort than peribulbar

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anesthesia. Intraoperatively, feeling of pain and discomfort were slightly higher in topical anesthesia as compared to peribulbar anesthesia but this was not significant statistically. Surgeon's satisfaction was 75% in the topical group and 85% in the peribulbar group.

CONCLUSION: Cataract surgery done under topical anesthesia by phacoemulsification is thus considered safe and effective.

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FEELING OF PAIN DURING ADMINISTRATION OF ANAESTHESIA	TOPICAL ADMINISTRATION	PERIBULBAR ADMINISTRATION
0 - No Pain	46	25
1- Mild Pain	12	20
2- Moderate Pain	2	10
3- Severe Pain	0	5
P = 0.000		

TABLE 1: Feeling of pain during the administration of anaesthesia

FEELING OF PAIN INTRAOPERATIVELY	TOPICAL ADMINISTRATION	PERIBULBAR ADMINISTRATION
0 - No Pain	50	53
1- Mild Pain	8	6
2- Moderate Pain	2	1
3- Severe Pain	0	0
P = 0.601		

TABLE 2: Feeling of pain intraoperatively

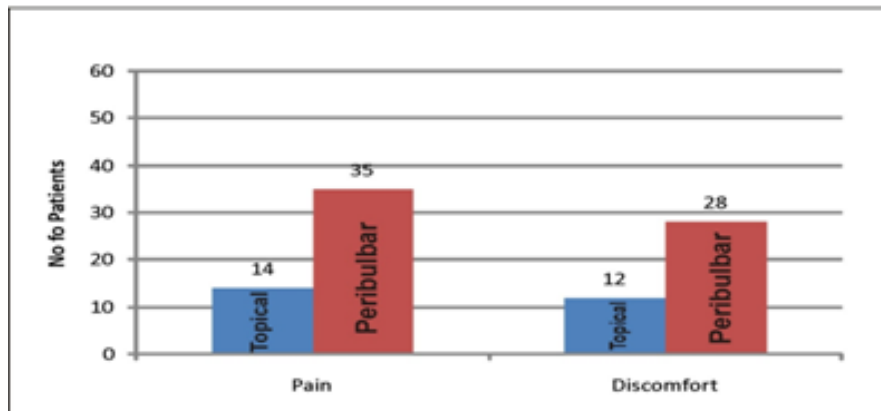
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FEELING OF DISCOMFORT DURING ADMINISTRATION OF ANAESTHESIA AND INTRAOPERATIVELY	ADMINISTRATION	INTRAOPERATIVELY
Topical	12	15
Peribulbar	28	11
	P = 0.004	P = 0.506

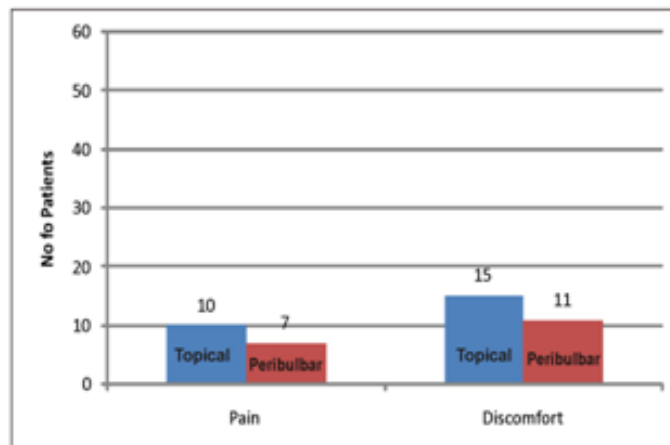
TABLE 3: Feeling of discomfort during the administration of anaesthesia and intraoperatively

SURGEON'S COMFORT	TOPICAL ADMINISTRATION	PERIBULBAR ADMINISTRATION
Unwanted ocular movements	14	4
Patient cooperation (uncooperative)	15	5

TABLE 4: Surgeons comfort intraoperatively



Feeling of Pain & discomfort during administration of Anesthesia



Feeling of Pain & Discomfort intraoperatively

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