



## THE INCIDENCE OF OCULOCARDIAC REFLEX IN TOPICAL AND PERIBULBAR ANAESTHESIA DURING PHACOEMULSIFICATION CATARACT SURGERY.

### Anaesthesiology

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### ABSTRACT

**Objectives:** To study the incidence of Oculocardiac Reflex in Peribulbar and Topical anaesthesia during phacoemulsification. **Methods:** 100 patients were randomly distributed in two groups of 50 patients each. Group T received topical anaesthesia while Group P received peribulbar anaesthesia for phacoemulsification. The pulse rate during preoperative check-up was compared with the pulse rate taken during the surgery and the incidence of oculocardiac reflex was observed. **Results:** 07 of 50 patients in Group P and 08 of 54 patients in Group T were found to have OCR during Phacoemulsification and no statistically significant difference was seen. **Conclusion:** In our study, we concluded that there was no significant difference in the incidence of oculocardiac reflex between peribulbar and topical anaesthesia.

### KEYWORDS

Oculocardiac reflex, Topical Anaesthesia, Peribulbar Anaesthesia

#### AIM AND OBJECTIVES:

To study the incidence of Oculocardiac Reflex in Peribulbar and Topical anaesthesia during phacoemulsification.

First described in 1908, the oculocardiac reflex (OCR; also known as the Aschner reflex or trigeminovagal reflex) was first described in 1908 and is a reduction of the heart rate resulting from direct pressure placed on the extraocular muscles (EOM), globe, or conjunctiva.[1] The reflex is defined as a decrease in heart rate by greater than 20% following the exertion of the aforementioned eye pressure.[2] VanBrocklin et al wrote a brief review of oculocardiac reflex published in 1982.(3) Scheiermann et al reviewed 9 randomized trials concerning anesthetic impacts on OCR (4). Manipulation of various visceral organs can elicit reflex bradycardia.(5) same happens in oculocardiac reflex(OCR). It is less common during phacoemulsification as compared to other eye surgeries involving the extraocular muscles.

Peribulbar anesthesia, is the most commonly used anesthesia for cataract surgery. However, complications such as incomplete anesthesia, globe perforation, peribulbar hemorrhage, and increase in intra-ocular/intra-orbital pressures are known.[6] Ophthalmologists primarily operating cataract should be well versed with OCR.

#### Methods:

One hundred patients are enrolled for phacoemulsification in this prospective study. Patients were randomly distributed in two groups based. 50 patients were sorted for phacoemulsification under topical anaesthesia (Group T) and 50 patients were grouped for peribulbar anaesthesia (Group P).

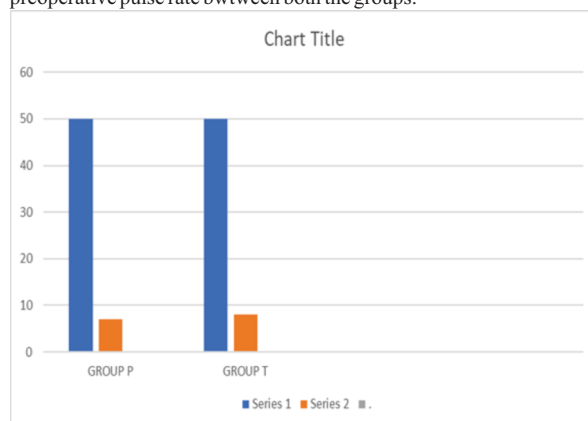
Informed consent for phacoemulsification was taken. Phacoemulsification is done with a 2.8 mm corneal incision with 50 patients enrolled in the Group T and 50 in the Group PB. Topical anesthesia was administered in the conjunctival cul de sac of the eye under surgery. Eyedrop proparacaine 0.5% one drop each was instilled in the immediate preoperative period and 5–6 times during surgery in topical anesthesia.

A multiparameter monitor was used to measure the vitals(pulse) of the patient. The pulse rate during preoperative check-up was considered as the baseline parameter to compare with the pulse rate taken during the surgery. OCR is defined as a decrease in pulse rate by greater than 20% is calculated accordingly.

#### RESULTS AND OBSERVATIONS:

In the peribulbar block, 12 male patients and 38 female patients were operated. In topical anaesthesia, 27 males and 23 females were operated. The mean age of the patient measured in years in Group P is  $65.52 \pm 7.66$ , and in Group TA is  $62.34 \pm 4.55$ . Preoperative baseline pulse rate measured in Group P is  $76.52 \pm 8.90$  per minute and the baseline pulse rate in Group T is  $75.85 \pm 8.72$  per minute. 07 of 50 patients in Group P and 08 of 54 patients in Group T were found to

have OCR during Phacoemulsification. There was no statistically significant difference in the gender and age of the patients who received topical and peribulbar anaesthesia. Also, there was no significant difference in the incidence of oculocardiac reflex preoperative pulse rate between both the groups.



#### CONCLUSION:

Our study showed that there was no significant difference in the incidence of oculocardiac reflex between peribulbar and topical anaesthesia.

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