

## Haemodynamic and intraocular pressure changes during peribulbar anaesthesia with ropivacaine and clonidine in phacoemulsification cataract surgery

Sir,

It is really heartening to see the progress of the *Indian Journal of Anaesthesia* (IJA) over the last 2 years. The readership base has widened and so has the horizontal expansion and penetration into other specialities. The progress achieved so far has done the reputation of IJA a world of good in disseminating the knowledge and advancements in anaesthesiology to a much larger intellectual population. The critical comments can really help in improving the quality of the published articles in the journal to a large extent in the future. The identification of weaknesses, shortcomings and limitations can further help in improving the quality of the journal.

We welcome the critical appraisal of our article “Comparative evaluation of ropivacaine and lignocaine with ropivacaine, lignocaine and clonidine combination during peribulbar anaesthesia for phacoemulsification cataract surgery” by the concerned readers.<sup>[1]</sup> In fact, the entire study is based on the model of day care surgery, especially the camp-based surgery, which is widely practiced in this part of the world. As such, attempts were made to simulate the near-identical surgical conditions prevalent in the peripheral health sector.

Topical anaesthesia is immensely popular with the practicing ophthalmologists, but peribulbar blocks are required in many circumstances such as in uncooperative patients. The anaesthetic, lignocaine 2% jelly, may provide good analgesia on topical application but somehow its use is still limited. Instillation of gel can make the surgical conditions more difficult due to its viscous nature. Secondly, it can also cause clouding of the cornea, which may again hamper the smooth operating conditions. We assume that the concerned readers should be well acquainted with this drawback of lignocaine jelly.

The day care model has its own limitations during the follow-up of patients. The ophthalmology unit may not be functional for 24 h in a majority of the settings, and this can be another big limitation. Moreover, these patients come from far-off places and do a lot of travelling on the day of surgery, before and after the operation. In our day-to-day practice, we have received complaints in the past about discomfort in the operated eye, foreign body sensation and sometimes even pain. Although we prescribe mild analgesics for such complaints, providing them a prolonged period of analgesia was considered a better option, which finally led to the designing of the present study.

The choice of ropivacaine over other anaesthetics was dictated by its ability to cause lesser and shorter duration of motor blockade at identical doses as compared with bupivacaine. However, the prolonged sensory analgesia with ropivacaine can be useful in day care surgery.<sup>[2]</sup> The study with ropivacaine, clonidine and dexmedetomidine is already going on for vitreoretinal surgeries.

The age range of the patients was 50–70 years, and the same was missed in the abstract during corrections of proofs. The safety of ropivacaine with regard to

cardiovascular and neurological effects has been successfully established in the literature.<sup>[3]</sup> The same sentence has been supported by the readers also, where they have mentioned that ropivacaine has a higher threshold for central nervous system toxicity than bupivacaine.

Patient's assessment was based on a subjective questionnaire, which included queries such as pre-operative anxiety, pain during block, perioperative anxiety, discomfort and pain, post-operative pain and discomfort. Because of the limitations of word length and inclusion of minimum tables and figures in the manuscript, this questionnaire could not be included.

Applanation tonometer is the gold standard measurement in ophthalmology, but, as mentioned previously, this model was simulating day care surgery in peripheral health sector set-ups where the availability of such costly equipment is a big limiting factor. Also, the applanation tonometer requires thorough training before its use and does consume a little higher time as compared with the Schiotz tonometer, as the former has to be cleaned every time it is used on different patients. However, newer techniques are available these days that are more accurate than Goldmann applanation tonometry, such as dynamic contour tonometry, which measures intraocular pressure with more precision and accuracy as well as with a very low inter- and intraobserver variability.<sup>[4]</sup> But, such methods and techniques are difficult to apply and work out at peripheral health sectors with limited resources.

The readers have misunderstood here as ocular massage was never given and only orbital mechanical compression was exerted with “pinky” rubber ball. This was very useful in cases where the eye became tense (like deep set eyes), and orbital mechanical compression is indicated in such situations.

Sedation with clonidine occurs due to central actions on alpha-2 adrenergic receptors. Whatever drug is injected in a regional space does get absorbed to some extent before finally getting metabolized. Otherwise, the pharmacodynamic sciences would have become obsolete and we could have got an unending concentration of injected drugs at local spaces.

Although lignocaine and bupivacaine have been traditionally used for achieving the peribulbar block, the above-mentioned merits of ropivacaine

as compared with bupivacaine mandate the use of ropivacaine in ocular surgeries as well.

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