3rd Article

The effect of adding cisatracurium versus hyaluronidase tolevobupivacaine and lidocaine mixture in single injection peribulbarblock for cataract surgery

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Abstract

Purpose

Comparing the effects of adding cisatracurium or hyaluronidase to levobupivacaine and lidocaine mixture forPBB on the onset of globe and lid akinesia in cataract surgery.

Methods: 105 adult patients scheduled for cataract surgery under PBB were randomly allocated into threegroups. Control group received 4 ml 0.5% levobupivacaine plus 3 ml 2% lidocaine diluted in saline to a totalvolume of 8 ml. Hyaluronidase 15 IU/ml and cisatracurium 1 mg were added to local anesthetics (LAs)mixture in hyaluronidase and cisatracurium groups respectively. Onset and duration of lid and globe aki-nesia, time for adequate conditions to start surgery and adverse events were recorded. Distribution of Las solution was evaluated by B-scan ultrasound at 3 min and 10 min after injection of LAs.

Results: Onset of lid and globe akinesia, as well as time to adequate conditions to start surgery, were fasterin cisatracurium and hyaluronidase groups compared to the control group ($P < 0.05$). Cisatracurium group had the fastest onset. At 3 min after injection of LAs, the ultrasound examination revealed that hyaluroni-dase group had the highest percentage of patients showing intraconal diffusion of LAs solution with the appearance of a characteristic T sign ($P < 0.05$).

Conclusions: The addition of cisatracurium 1 mg or hyaluronidase 15 IU/ml to levobupivacaine and lido-caine mixture for PBB hastened the onset of lid and globe akinesia without increase the incidence of adverse effects. This effect is more obvious with cisatracurium compared to hyaluronidas