

LETTER TO THE EDITOR

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# Letter to Editor: An inquest into alpha-2 agonists as a better adjuvant to intrathecal bupivacaine

Imran Ahmed Khan<sup>1\*</sup>  and Habib Md R. Karim<sup>2</sup>

## Letter to Editor

We appreciate the work by Choudhary et al. (Choudhary et al. 2023) for throwing light on the enigma regarding suitable additives for intrathecal bupivacaine in gynecological surgery. The article is relevant in the current anesthesia practice and has pointed out the conundrum of choosing between dexmedetomidine and clonidine. However, certain salient points still need dialogue, especially before accepting the suggestions.

The authors' conclusion and suggestion to choose clonidine over dexmedetomidine must be argued. The authors found the onset of sensory and motor effects as early in the dexmedetomidine group than in the clonidine group (Choudhary et al. 2023). Also, the duration of motor block and total duration of analgesia was more in the dexmedetomidine group. These findings were statistically significant, suggesting a more effective adjuvant property of dexmedetomidine. The authors' findings also correlate with the study by Mahendru et al., who found better quality of analgesia for dexmedetomidine in their comparative study among groups receiving fentanyl, clonidine, and dexmedetomidine as an adjuvant and bupivacaine alone (Mahendru et al. 2013).

While comparing the side effects of the two groups, authors found more need for rescue analgesia, pressor

agents, bradycardia, and nausea and vomiting in the clonidine group compared to the dexmedetomidine group. Although these differences were not statistically significant, which might be due to the small sample size, clinical significance cannot be guaranteed or refuted based on statistical significance. While clonidine costs less than dexmedetomidine, such adverse events also impact the quality of recovery, length of stay, and cost (Ludbrook 2022).

Contemporary research and pharmacological profile also show some advantages of Dexmedetomidine over Clonidine. A meta-analysis also suggested that when used with local anesthetic as an adjuvant for blocks, dexmedetomidine provides better clinical efficacy than clonidine (Bajpai et al. 2022). Therefore, because dexmedetomidine, when used intrathecally, is more potent, provides early onset of sensory and motor effects, provides a longer duration of analgesia, a lesser need for rescue analgesia, and lesser side effects, clonidine cannot be recommended only weighing on the cost difference of 1–2 US dollar. Until we get better quality evidence from meta-analysis or randomized, multi-center studies with larger samples, the enigma of better adjuvant for intrathecal bupivacaine among the alpha-2 agonists continues. We would appreciate the author's valuable comment on this aspect.

\*Correspondence:

Imran Ahmed Khan  
ikhan0046@gmail.com

<sup>1</sup> Department of Community Medicine, BRD Medical College, Gorakhpur, UP, India 273013

<sup>2</sup> Department of Anesthesiology and Critical Care, All India Institute of Medical Sciences, Deogarh, Jharkhand, India

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**References**

- Bajpai V, Patel TK, Dwivedi P, Bajpai A, Gupta A, Gangwar P et al (2023) Dexmedetomidine versus clonidine as an adjuvant to local anaesthetic in brachial plexus blocks: a meta-analysis of randomised controlled trials. *Braz J Anesthesiol* 73(5):665–675. <https://doi.org/10.1016/j.bjane.2022.07.005>
- Choudhary R, Pathania J, Sharma A, Sharma A, Sharma R (2023) Intrathecal bupivacaine with clonidine or dexmedetomidine as adjuvant in gynecological surgery: an enigma. *Ain-Shams J Anesthesiol* 15:1–7
- Ludbrook GL (2022) The hidden pandemic: the cost of postoperative complications. *Curr Anesthesiol Rep* 12:1–9
- Mahendru V, Tewari A, Katyal S, Grewal A, Singh MR, Katyal R (2013) A comparison of intrathecal dexmedetomidine, clonidine, and fentanyl as adjuvants to hyperbaric bupivacaine for lower limb surgery: a double blind controlled study. *J Anaesthesiol Clin Pharmacol* 29:496

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