

Comment on “Research Status of Different Adjuvants on Nerve Block’s Effect”

To THE EDITOR:

We appreciate the research by Jian Luo et al (1) titled “Research Status of Different Adjuvants on Nerve Block’s Effect,” on the effect of different adjuvants on nerve block. However, we have some doubts.

Firstly, this study was a narrative review, without original research and relying only on the published articles. So the study might have selection bias, and unable to comprehensively cover all relevant studies which affected the reliability of the final conclusions. At the same time, the retrieval strategies were limited. PubMed was used only for literature retrieval, and other databases were not included, which might miss important studies. And the specific combination of search terms, screening process and exclusion criteria were not mentioned, which reduced the transparency and repeatability of the research.

Secondly, in terms of adjuvant research content, the dose-effect relationship was insufficient: for most adjuvants, the optimal dose range or dose-effect relationship was not clearly defined. For example, the effects of different doses of dexamethasone (4 mg, 8 mg, 10 mg) on nerve blocking effects were not fully understood, which made it difficult to accurately use adjuvants in clinical applications, and it might lead to unstable effects or increased side effects. Furthermore, it had been clinically observed that intravenous dexamethasone could lead to unbearable perineal pruritus, and it had been shown that oral dexamethasone could similarly prolong nerve block time without symptoms of perineal pruritus (2). Limited studies on combined application: although studies on the combined application of different types of adjuvants had shown certain effects, there was a lack of comprehensive exploration of various possible combinations and in-depth mechanism studies. A double-blind randomized controlled trial had been conducted to examine whether the combination of dexamethasone and dexmedetomidine as a transverse abdominal muscle plane blocker (TAP) could improve analgesic efficacy and duration in patients with gastric cancer. Dexamethasone (10 mg) and dexmedetomidine (1 µg·kg⁻¹) combined as TAP block adjuvant could reduce the incidence of moderate and severe pain during 24 hour exercise and rest, and prolonged the first rescue and analgesia time after gastric

cancer surgery (3). More studies were needed on the interaction, optimal ratio and potential synergistic or antagonistic effects of different adjuvants in combination, so as to guide a more accurate combination regimen in the clinic.

Thirdly, in terms of study results, there was significant heterogeneity in the included studies in terms of design, patient population, type of nerve block, and details of adjuvant use, but this issue was not fully explored and resolved in the literature. The literature mainly focused on the effects of adjuvants on the short-term effects of nerve block (such as sensory and motor block time and early postoperative analgesia), The long-term effects were not included, such as the effects on the development of chronic pain, nerve function recovery and long-term quality of life of patients, so the pros and cons of adjuvants in nerve block could not be comprehensively evaluated. Unfortunately the study did not pay much attention to the special populations such as children, the elderly, pregnant women, or patients with specific diseases. These populations had different physiological and pathological status from the general population and might respond differently to adjuvants so as to limiting the clinical guidance value of the study.

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