

15th International Conference on
Orthopaedics, Arthroplasty and Arthroscopy

September 22, 2022 | Webinar

Received date: 14.09.2022 | Accepted date: 18.09.2022 | Published date: 22.09.2022

Comparison of lidocaine-dexmedetomidine and lidocaine–saline on the characteristics of the modified forearm bier block: A clinical trial

Karim Nasser¹, Kamal Ghaderi¹, Khaled Rahmani¹, Nasser Rahmanpanah¹, Shoaleh Shami¹, Farhad Zahedi² and Taher Naseh Baneh¹

¹Kurdistan University of Medical Sciences, Iran

²Indiana University School of Medicine, USA

Background and Aims: Forearm Modified Bier Block (FMBB) reduces local anesthetic systemic toxicity risks compared to the traditional method. This study was designed and implemented to compare the effects of lidocaine– dexmedetomidine (LD) and lidocaine–saline (LS) on the characteristics of the MFBB in the distal forearm and hand surgery.

Material and Methods: In this randomized double-blind trial, which was conducted after obtaining institutional ethical committee approval, 60 patients were enrolled and randomly divided into two groups. In both groups, the analgesic base of the block was 20 mL lidocaine 0.5% which was supplemented by 1 µg/kg dexmedetomidine in the LD group or 1 mL of 0.9% saline in the LS group. Patients were evaluated for the onset and duration of sensory block, time of the first request for postoperative analgesia, and analgesic request frequency during the first 24 h after surgery.

Results: Sensory block onset in the LD group (7.1 ± 1.4 min) compared to the LS group (8.4 ± 1.4) was faster ($P = 0.008$). The duration of the sensory block in the LD group (49.7 ± 7.2 min) was longer than the LS group (33.3 ± 2.6) ($P < 0.001$). Compared to the LS group, the time of the first request for postoperative analgesia in the LD group was later ($P = 0.6$), and had lesser analgesic requests during the first 24 h after surgery ($P < 0.001$).

Conclusion: Based on our study findings, adding dexmedetomidine to lidocaine in the MFBB increases the duration of sensory block.

Recent Publications

1. Choyce A, Peng P. A systematic review of adjuncts for intravenous regional anesthesia for surgical procedures. *Can J Anaesth.* 2002;49:32–45.
2. Chiao FB, Chen J, Lesser JB, Resta-Flarer F, Bennett H. Single-cuff forearm tourniquet in intravenous regional anaesthesia results in less pain and fewer sedation requirements than upper arm tourniquet. *Br J Anaesth.* 2013;111:271–5.
3. Dekoninck V, Hoydonckx Y, Van de Velde M, Ory MJ, Dubois J, Jamaer L, et al. The analgesic efficacy of intravenous regional anesthesia with a forearm versus conventional upper arm tourniquet: A systematic review. *BMC Anesthesiol.* 2018;18:86.

nasser_k@muk.ac.ir