

Serratus plane block for multiple rib fractures: a pivotal study.

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Argomento: Anestesia loco-regionale e analgesia

Multiple rib fractures (MRF) are present in approximately 21% of patients admitted to trauma centres with blunt chest trauma [1]. They are frequently associated with pulmonary complications and severe pain [2]. The Practice Management Guidelines by the Eastern Association for the Surgery of Trauma published in 2016, conditionally recommend the use of epidural and multimodal analgesia (combinations of opioids with NSAIDs, pregabalin/gabapentin, acetaminophen) versus opioids alone to treat pain in adult patients with MRF [2]. Ultrasound-guided serratus plane block (SAPB) represents an alternative treatment of pain in patients with MRF. Few cases describing myofascial blocks has been reported at this point in time [3,4]. We present 14 patients (2 female) mean age 51 (± 22), admitted to our emergency department with MRF (mean 6, ± 2) and treated with SAPB. Cardiac monitoring, intravenous line and ultrasound scanner were assessed. All patients were in supine position. A 30 ml syringe was loaded with 0,25% levobupivacaine and 8 mg of dexamethasone. The injection was targeted toward the serratus plane at the level of the fifth rib in the mid-axillary line, without any complication. The mean NRS observed before the block was 6 (± 2) at rest and 9 (± 1) after a deep breath. The mean NRS registered 15 and 60 minutes after the block at rest was respectively 1 (± 1) and 1 (± 1), the dynamic NRS was respectively 4 (± 2) and 2 (± 1). In order to evaluate the effectiveness of the block we registered the time to rescue analgesia (NSAIDs, acetaminophen, opioids) and it was 33 hours on average for 12 patients. In conclusion SAPB appears to be safe, effective, easy to perform and it is associated with a low request of rescue analgesic drugs. Further randomised clinical trials are needed to assess the efficacy of SAPB for the treatment of pain in MRF.

[1] P. Cameron, L. Dziukas, A. Hadj, P. Clark, S. Hooper. **Rib fractures in major trauma.** Aust N Z J Surg, 66 (1996), pp. 530-534.

[2] Samuel Michael Galvagno, Jr, DO, PhD, Charles E. Smith, MD, Albert J. Varon, MD, MHPE, Erik A. Hasenboehler, MD, Shahnaz Sultan, MD, MHSc, Gregory Shaefer, DO, Kathleen B. To, MD, Adam D. Fox, DO, DPM, Darrell E.R. Alley, MD, Michael Ditillo, DO, Bellal A. Joseph, MD, Bryce R.H. Robinson, MD, MS, and Elliot R. Haut, MD, PhD, Baltimore, Maryland. **Pain management for blunt thoracic trauma: A joint practice management guideline from the Eastern Association for the Surgery of Trauma and Trauma Anesthesiology Society.**

[3] Edward Durant MD, MPH Brittany Dixon MD Josh Luftig PA Daniel Mantuani MD Andrew Herring MD. **Ultrasound-guided serratus plane block for ED rib fracture pain control.** The American Journal of Emergency Medicine Volume 35, Issue 1, January 2017.

[4] Blanco R, Parras T, Mc Donnell JG, Prats-Galino A. **Serratus plane block: a novel ultrasound-guided thoracic wall nerve block.** Anesthesia. 2013 Nov; 68 (11): 1107-13.