Ultrasound-guided combination of 3 peripheral nerve blocks in an emergency patient with fractured shin: case report

Livija Šakić¹, Ivona Brkić¹, Neven Starčević², Kristina Šemanjski², Katarina Šakić^{3,4}

1. Department of Anesthesiology, Reanimatology and Intensive Medicine, University Hospital "Sveti Duh", Zagreb, Croatia

2. Department of Surgery, University Hospital "Sveti Duh", Zagreb, Croatia

3. Faculty of Dental Medicine and Health Osijek, Department of Anesthesiology, Reanimatology and Intensive Medicine, Osijek, Croatia

4. Polyclinic Bagatin, Department of Maxillofacial, General and Aesthetic Surgery, and Anesthesiology, Zagreb, Croatia

Introduction:

The increase in the use of ultrasonography in recent years eliminates many limitations. Ultrasonography enables direct visualization of nerve structures, reduction in complications, and identification of new peripheral nerve block approaches (1).

Case report:

77 years old emergency patient with fractured left cruris ASA status 3 was enrolled for emergency osteosynthesis. The patient ate two hours before acceptance and received 10 mg metoclopramide and 50 mg ranitidine intravenously. Cardiac murmur 4/6 was found during physical examination over praecordium of which the patient had no knowledge about. Other known comorbidities were hypertension, hypothyreosis and overweightness. Due to unspecified cardiac murmur and the notion patient ate before the accident we excluded spinal anaesthesia as an option and decided to perform peripheral nerve blockade technique.

After the anaesthesia technique was fully explained and patient's informed consent obtained, we performed the combination of femoral nerve block using 30 ml of 0,5% levobupivacaine with 4mg of dexamethasone, distal sciatic nerve block using 30 ml of 0,5% levobupivacaine and saphenous nerve block using 10 ml of 0,5% levobupivacaine above the knee of the injured shin. All 3 blocks were performed using ultrasound guided in plane technique.

Ultrasound guided femoral nerve block

Ultrasound guided distal sciatic nerve block

Ultrasound guided saphenous nerve block

Discussion

Time from performed blocks to the start of surgery was half an hour. We used propofol via TCI pump for light sedation during surgery.

Patient was stable the whole time during the procedure with stable blood pressure and pulse, breathing spontaneously with SpO₂ 100% via oxygen facial mask 4l/min. Intraoperative blood loss was about 150 ml.

The blocks were successful and no block-related complications were noted.

No opioid requirements after surgery were noted in postoperative period as well.

Effective intra and post-operative pain management is mandatory for every patient, as it can positively affect postoperative recovery and clinical outcomes.

Ultrasound-guided peripheral nerve blocks are a good option of anaesthesia and analgesia for emergency patients.

References

1. Kilicaslan A et al. Ultrasound-guided multiple peripheral nerve blocks in a superobese patient. Case Rep Anesthesiol 2014;896914 doi.10.1155/2014/896914
2. Rawal N. Current issues in postoperative pain management. Eur J Anaesthesiol. 2016;33:160–71. <https://doi.org/10.1097/EJA.0000000000000366>