Regional anesthesia in ankle surgery in elderly patient. A case report

Valeria Sarahí Escobedo Rodriguez M.D.
Guillermo Gutierrez Zúñiga M.D.
Carlos Alberto Carreon Cerda M.D.

Yucatán, Mexico

Background
Regional anesthesia is an increasingly relevant tool in the field of anesthesiology in the management of postoperative pain. We present the case of a 66-year-old female patient with a right ankle fracture, who underwent a right femoral block and popliteal sciatic block, as part of the anesthetic management in order to reduce the requirement for analgesics in the postoperative period. The introduction of regional anesthesia has proven to have great benefit in the management of postoperative pain in the elderly, allowing rapid recovery, reducing the risk of complications such as delirium or cognitive impairment.

Keywords: Regional anesthesia, elderly patient, postoperative pain.

Case Report

Anesthesiology

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The elderly population is increasing, according to reports from the World Health Organization. It is estimated that 10% of the population undergoing surgery is 75 years or older.[1] As a population with multiple chronic diseases, they are susceptible to developing postoperative complications that increase the risk of morbidity.[2]

The elderly patient is especially vulnerable to the pharmacological effects of systemic anesthetics since aging affects both the pharmacokinetics and pharmacodynamics of sedative or anesthetic medications.

Regional anesthesia refers to the use of local anesthetic agents to decrease painful sensory information from surgical sites to the brain. Regional anesthesia is an increasingly relevant tool in the area of anesthesiology in pain management, minimizing cardiovascular, neurological and physiological stress in this population. A regional technique executed with caution can have an important role in the recovery of the elderly patient, a reduction in hospital stay, a lower risk of morbidity, as well as lower readmission rates.[2]

Case report

A 66-year-old female with a Weber C right ankle fracture, with no medical relevant history, scheduled for open reduction and internal fixation of the right ankle. Began the current illness a week earlier after experiencing a drop in her own height.

Vital signs upon admission to the operating room: T/A 172/72 mmHg, heart rate 78 bpm, respiratory rate 78 rpm and satO2 97%. A catheter is placed in the epidural space between L3-L4. Ultrasound-guided right femoral block was performed with a Stimuplex 100 mm needle, with high-frequency linear transducer, using Ropivacaine 0.5% 75 mg + Lidocaine/Epinephrine 100 mg perineural and right sciatic-popliteal block ultrasound-guided through a lateral approach in the popliteal fossa using Ropivacaine 0.5% 75 mg + Lidocaine/Epinephrine 100 mg perineural.

Duration of anesthetic effect 8 hours, duration of analgesia 12 hours. Denies the presence of paresthesias, capillary refill for 2 seconds, recovery of complete muscle strength at 12 hours. Postoperative analgesic management: Paracetamol 750 mg every 8 hours, Tramadol 100 mg for 24 hours. No requirement for rescue analgesic doses.

Discussion

Pain management in the elderly is a challenge because they are patients with decreased physiological reserves and response to stress events, risk of delirium or cognitive impairment, as well as multiple comorbidities, which make pain management difficult in the perioperative period.

In lower extremity surgeries, ankle blocks are frequently used to provide anesthesia or analgesia in foot and ankle surgeries. The femoral nerve block is used for surgeries involving the anterior compartment of the thigh, knee surgery, and medial compartment of the leg below the knee. The sciatic-popliteal nerve block is used to provide analgesia (or anesthesia) in the posterior region of the thigh and the skin under the

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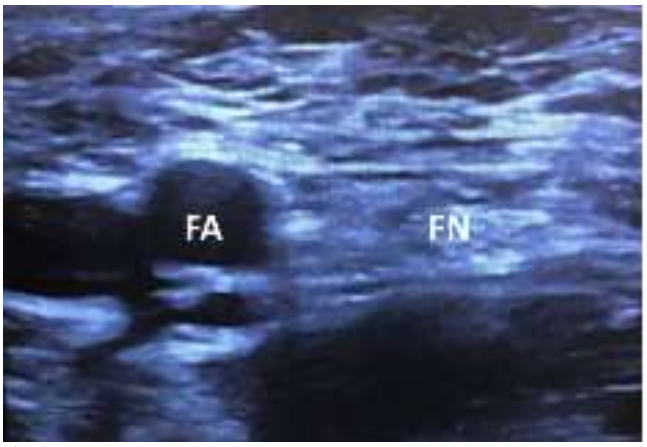

Figure 1. Ultrasound image of the femoral nerve (NF), femoral artery (FA).

knee and foot.[3] Regional blocks of lower limbs are the preferred alternative to general anesthesia due to the low risk of systemic toxicity, neurological impairment and superior tolerability.[5]

Current evidence suggests multimodal pain management, supplementation with regional anesthesia, and minimization of narcotic use. Peripheral nerve blocks offer an improvement in hemodynamic stability and less need for sedatives, in favor of better cognitive recovery.[2]

Conclusion

Regional anesthesia provides adequate postoperative anesthesia and analgesia. The advantages of this include adequate pain control, decreased administration of opioids, reduced risk of delirium or postoperative cognitive impairment, fast recovery, as well as reduced hospital stay and expenses.[4]

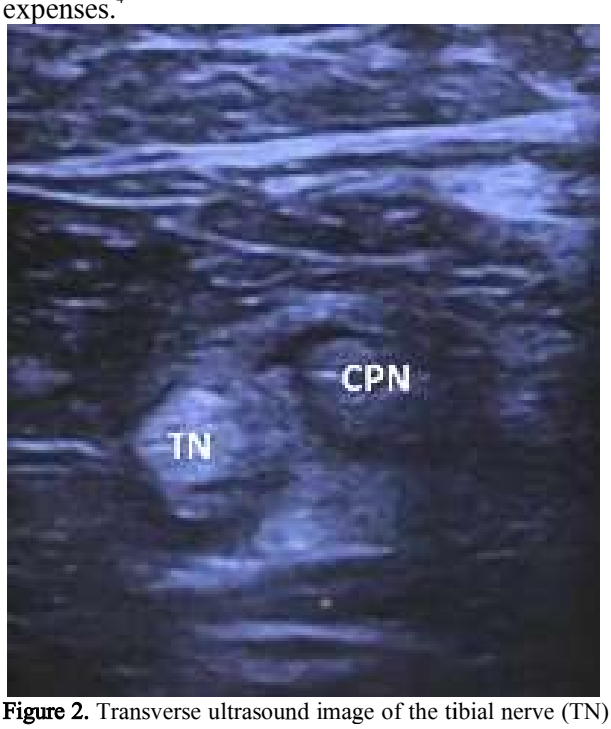

Figure 2. Transverse ultrasound image of the tibial nerve (TN) and common peroneal nerve (CPN), lateral approach.

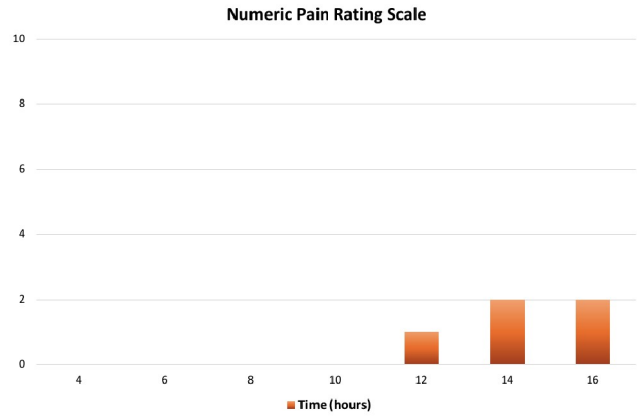

Figure 3. Evolution of Numeric Pain Rating Score in this patient.

According to the postoperative evaluation of pain in this patient, it can be concluded that regional anesthesia is an important tool in the multimodal management of the elderly patient by reducing the requirements for additional analgesics, as well as the risk of postoperative complications due to prolonged hospital stays.

A management that includes a regional technique executed with caution has multiple advantages that allow us to provide the patient with optimal management of postoperative analgesia.[1]

Conflicts of interests

The authors have no conflicts of interest to declare

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Valeria Sarahí Escobedo Rodríguez
Facultad de Medicina
Universidad Autónoma de Yucatán
Clínica Hospital Mérida APP ISSSTE

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