

Infraclavicular nerve catheter for patient with acute right wrist fracture and baseline left upper extremity hemiparesis

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Introduction

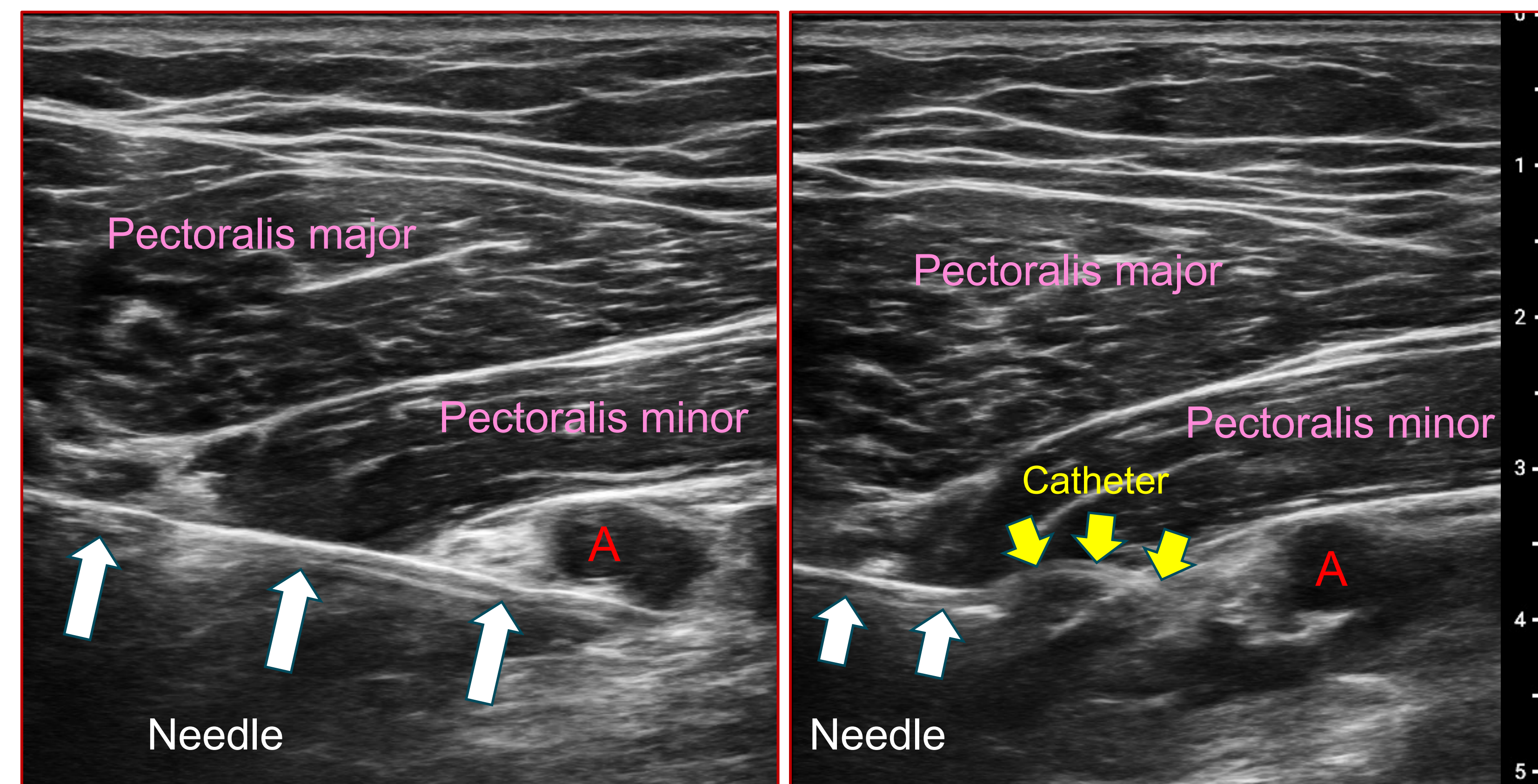
- Number of elderly patients presenting for surgery related to trauma from falls is increasing with the aging population¹.
- Wrist fractures are the most common upper extremity injuries in the elderly population with an incidence of 2.4 to 10 per 1000 people per year^{2,3}.
- Many of these patients have several other coexisting conditions that can make perioperative management complex.
- The use of regional anesthesia for postoperative pain management with upper extremity orthopedic injuries is common and has been associated with improvement in postoperative pain control and reduction in the use of opioids⁴.
- The infraclavicular nerve catheter is useful for patients with wrist fractures⁵.
- No prior case reports that have demonstrated the use of an infraclavicular nerve catheter in a patient with pre-existing hemiparesis in the opposite arm.

Case Presentation

- 75F history of HTN, COPD, remote CVA (42 years ago) with residual **left** arm complete paralysis and limited **left** leg function (ambulates with a cane) presents for ORIF of **right** distal radius after ground level fall.
- Plan for general anes. + infraclavicular nerve catheter placement.
- Catheter placed without difficulty with continuous infusion of 0.2% ropivacaine running at 2 mL/hr with 3 mL/20 min patient-controlled bolus (lower than our usual protocol of 6 mL/hr).
- Surgery and immediate postoperative care proceeded uneventfully.

Post operative course

- Planned admit to orthopedic floor
- Able to feed herself and perform ADLs
- Continued her home dose of gabapentin (300mg TID), acetaminophen, and only required 2 doses of oral tramadol 25mg
- Discharged to SNF on POD #2
- She had mild weakness of right hand that limited her ability to use the bolus function of the ropivacaine infusion
- She reported slight imbalance due to the weight of the infusion set being suspended on her side during attempts to ambulate - required her to switch the infusion from one side to another frequently which sometimes resulted in tangling of the catheter
- The catheter was removed on POD #4 at the SNF uneventfully



REFERENCES

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Discussion

- Perioperative management of the elderly population can be complex due to baseline dysfunction related to coexisting conditions.
- As we progress towards standardization of care, there will always be comorbidities that require adjustments to our protocols.
- We place continuous infraclavicular catheters for >95% of distal radius fractures at our institution. However, the anesthetic technique for this case required careful consideration and discussion with the patient and all of those involved in her care.
- We had to ensure the patient could appropriately mobilize and participate in ADLs more than a standard postoperative patient.

Conclusions

- Specific adjustments to the continuous infraclavicular block in **this** patient included:
 1. A lower infusion rate while maintaining the ability to deliver patient controlled boluses. This allowed the patient to tailor her nerve block depth based on existing pain and motor strength.
 2. Inpatient admission to ensure safety and ADL performance.
- Specific adjustments to the continuous infraclavicular block in **future** patients to improve ADLs in patients with limited mobility.
 1. Consider decreasing the total volume of the ropivacaine ball to reduce the weight and facilitate ambulation.
 2. Refilling the pump is an easy step when inpatient to ensure adequate duration. Outpatients could return for a refill.

This case demonstrates regional anesthesia can safely be utilized for postoperative pain management in patients with a history of hemiparesis and an injury to the contralateral functioning extremity.