



INTRODUCTION

Arteriovenous malformations (AVMs), which result from failure or abnormal growth of a vascular bed, can be treated using an endovascular approach. Severe pain is a common complaint following such procedures, which can be reduced by peripheral nerve blockade. We present a successful case of peripheral nerve block following an endovascular procedure.

MATERIALS AND METHODS

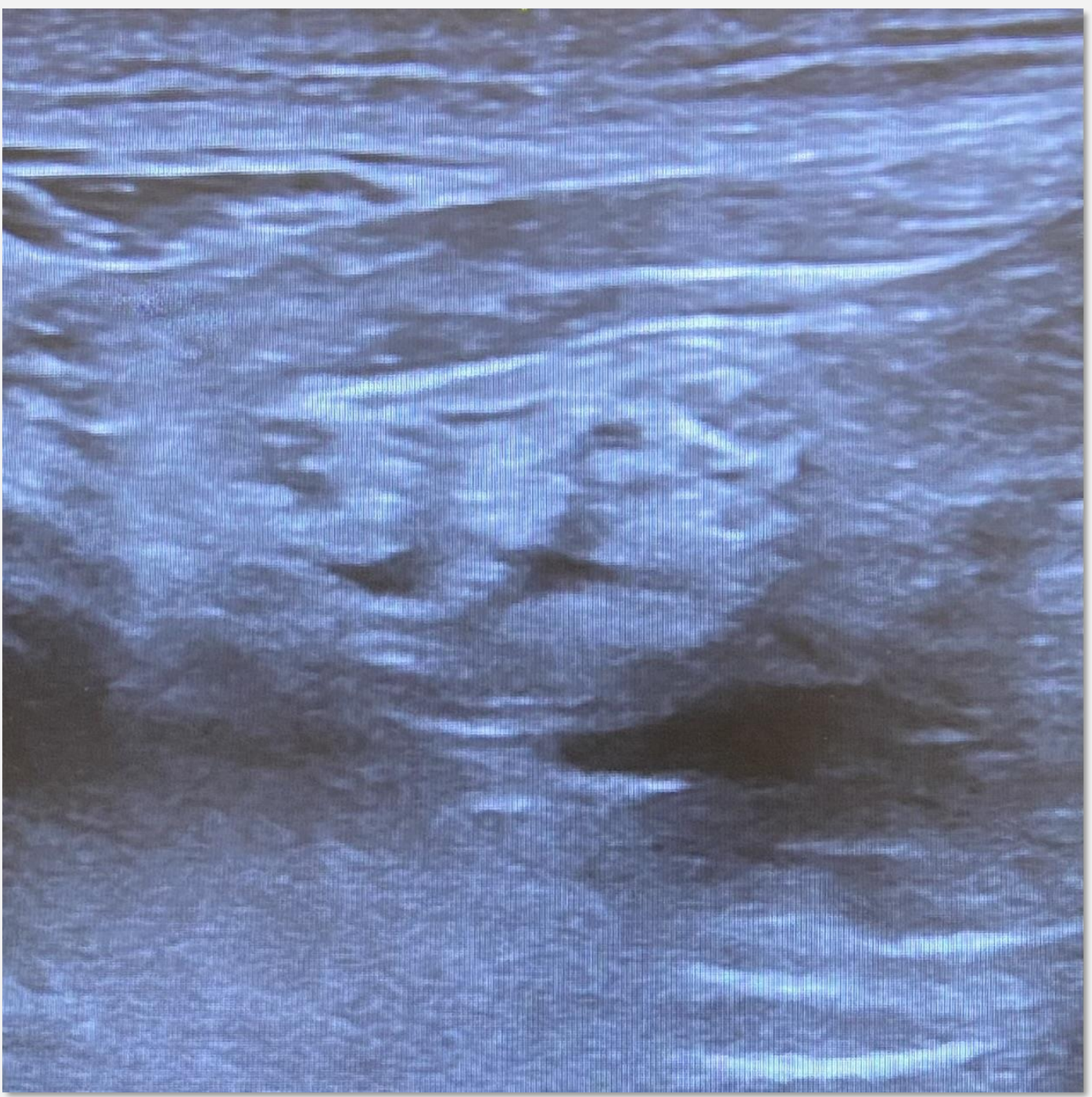
A 18-year-old male patient with an AVM in the proximal region of his left leg was subjected to an endovascular procedure for embolization of the AVM executed at the Hospital das Clinicas of the Faculdade de Medicina of the University of São Paulo (HC-FMUSP), under general anesthesia. The patient signed a written informed consent prior to any procedure. As the case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per HC-FMUSP policy.

CASE REPORT

A 18-year-old (73kg) male with an AVM in the proximal region of his left leg has been subjected to a failed endovascular procedure two months before, under general anesthesia, due to technical surgical issues. Following this procedure, he developed severe postoperative pain requiring hospital admission and high-dose opioids for pain relief, delaying hospital discharge. For a second embolization attempt, he expressed anxiety regarding postoperative pain. After discussing with the patient, a combined general anesthesia with peripheral block of both the sciatic popliteal and adductor canal was executed, aiming for better postoperative pain control, as follows: IV induction (propofol 2mg/kg + fentanyl 1.5µ/kg + lidocaine 1mg/kg); airway was secured with a laryngeal mask; anesthesia maintenance was carried out with sevoflurane 0.8-1.0 MAC and ventilation kept in pressure support. Immediately following the endovascular procedure, sciatic popliteal and adductor canal blocks were performed with 10mL and 15mL ropivacaine 0.375%, respectively, under ultrasonography guidance, using a 21-gauge x 100mm block needle, using an in plane approach.

DISCUSSION

- Careful planning and Surgical skills are required for embolization procedures.
- Pain may cause discomfort, but also affect function and prolong hospital discharge.
- Higher cost may result from undertreated pain.
- Adverse effects limit the usage of general anesthesia as the only option.
- Peripheral nerve blocks offer targeted analgesia to specific anatomical regions affected by the AVM intervention and also enable lesser use of systemic opioids.
- Preoperative planning collaboration involving interventional radiologists and vascular surgeons becomes pivotal for anesthesiologists to discern the intricacies of the embolization procedure.



Sciatic popliteal nerve block

- The peripheral nerve block was successful for pain control prompting rapid hospital discharge with patient satisfaction.
- Regional anesthesia is not without morbidity, carrying risk of nerve injury and local bleeding.
- Adequate patient selection and preoperative planning help minimize possible adverse events.
- A tailored approach probably minimize the risks while improving patient satisfaction.
- Further controlled studies are needed.

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