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TITLE

Ultrasound-Guided Femoral Branch Block for Femoral Arterial Access in Endovascular Aneurysm Repair: A Study on Analgesic Efficacy and Safety

BACKGROUND

Endovascular Aneurysm Repair (EVAR) through femoral arterial access has been marked by a notable challenge—severe pain at the access site, attributed to the use of large-bore sheaths and catheters. Effective control of access site pain is a crucial aspect of periprocedural management. While some institutions opt for general anesthesia to address this issue and cater to patient preferences for blood pressure control, the association of general anesthesia with perioperative mortality poses a concern. Furthermore, certain patient conditions may preclude the use of general anesthesia. A previous study has explored the use of ultrasound-guided genitofemoral nerve block for vascular closing devices in femoral access gain. Building on this research, our study focuses on administering a genitofemoral block before the EVAR procedure, aiming to achieve pain relief during and after the procedure. Additionally, our investigation seeks to assess and document any complications associated with femoral block administration. This study aims to contribute valuable insights into optimizing pain management strategies during EVAR procedures, offering potential benefits for both patient comfort and procedural outcomes.

METHODS

Ultrasound-guided FBB using 2% lidocaine with 1:100,000 epinephrine was performed before each EVAR procedure. Thirty-eight patients (mean age, 76.4±7.4 years; 14.8% female) were consecutively enrolled between August 2021 and October 2023 in two centers. Sensation grade was assessed on a 3-point scale before femoral access was gained. Pain scores were evaluated using a visual analog scale (VAS) during and after the procedure. Postoperative intravenous analgesia requirements and complications were recorded.

RESULT

The majority of patients (n=27, 71.1%) experienced grade 2 sensation (absence of all sensation) after FBB, while the remaining patients (n=11, 28.9%) reported grade 1 sensation (touch sensation without pain). During the procedure, the VAS was 2.63±2.53, and post-procedure VAS was 0.48±2.84. All patients tolerated the procedure without the need for general anesthesia. Only one patient required additional intravenous analgesia during the procedure, and six patients (12%) received intravenous analgesia in the general ward. No FBB-induced or access site complications were observed.

CONCLUSIONS

Ultrasound-guided FBB before EVAR procedures may create a more favorable environment for operators, provide pain relief for patients with reduced need for intravenous analgesia, and ensure safety.

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