CO 3 - CONTINUOUS ERECTOR SPINAE PLANE BLOCK FOR PAIN MANAGEMENT IN AORTIC THORACIC ANEURYSM REPAIR

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Introduction: Cardiac surgical pain is of moderate to severe intensity and its management is essential to prevent hemodynamic instability and development of chronic pain[1]. Classically, it is controlled with high doses of opioids[2]. Erector Spinae Plane Block (ESPB) has been indicated as an opioid sparing technique and an alternative to neuraxial blockade in cardiac surgery[1,2].

Case Report: We report a case of a 42-year-old male patient, with no previous medical history, proposed to deferred extensive aortic thoracic aneurysm repair with clamshell incision. At the operating room (OR), standard ASA monitoring, anesthetic depth monitoring and cerebral and paraspinous oximetry monitoring with near infrared spectroscopy were applied. Catheters for invasive pressure monitoring were placed in the radial and femoral artery. Target-controlled infusion (TCI) of propofol and TCI of remifentanil were used for anesthetic induction and maintenance. Bilateral intercostal nerve block from T2 to T6 was performed by the surgeon and 1000mg of paracetamol, 100mg of tramadol and 10mg of morphine were administered. The patient was extubated in the OR uneventfully without referring any pain. Later, in the Cardiothoracic Intensive Care Unit, the rest pain was 2/10 in the Numerical Rating Scale, but movement pain was 8/10 under morphine infusion. An ultrasound guided bilateral ESPB was performed at T4 level and catheters were inserted. A bolus of 20ml of ropivacaine 0.2% was injected bilaterally and 20 minutes later, rest pain remained 2/10 and movement pain reduced to 5/10. Boluses of 15ml of ropivacaine 0.2% were given bilaterally every 4 hours. Respiratory and out of bed rehabilitation were started on the 1st and 4th postoperative (PO) day, respectively, and hospital discharge was on the 10th PO day.

Discussion and Conclusion: The ESPB, is a recent technique, that aims to deposit local anesthetic between the erector spinae muscle and the thoracic transverse process to block the dorsal and ventral rami of the spinal nerves[1]. Compared to neuraxial blocks, it is easier to perform and has less complications, such as direct spinal cord injury, central infection and need for bladder catheterization[2]. ESPB is also less likely to form epidural hematoma, allowing patients with coagulation issues, including those undergoing cardiopulmonary bypass, to benefit from its analgesia[1,2]. In cardiac surgery, and considering the clamshell incision as extremely painful with severe impact on respiratory mechanics, multimodal and regional analgesia are recommended, allowing to spare opioid and permitting early rehabilitation and recovery. Continuous bilateral ESPB is associated with faster mobilization, significant decrease in intraoperative and PO opioid

consumption and hospital length of stay, rendering it as a useful technique to manage pain, particularly in cardiothoracic surgery[1,2].

References:

1. J Cardiothorac Vasc Anesth. 2019 Jun;33(6):1659-1667
2. J Clin Med. 2021 Nov;10(21): 5022