Continuous Regional Analgesic Techniques for Acute Pain Relief

Michael Beh ZY

University of Malaya, Malaysia

Continuous peripheral nerve blocks (cPNB) can be used to provide effective and prolonged analgesia. In the clinical practice guideline on management of postoperative pain by the American Pain Society (APS), American Society of Regional Anaesthesia and Pain Medicine (ASRA) and American Society of Anaesthesiologists (ASA), the committee strongly recommends that clinicians should consider use of surgical site–specific peripheral regional analgesic techniques in adults and children as part of multimodal analgesia, particularly in patients who undergo lower extremity and upper extremity surgical procedures. The use of continuous rather than single-injection peripheral techniques is preferred when the duration of postoperative pain is likely to be more prolonged, because of the limited duration of analgesia expected with a single injection.

Compared with opioid analgesics, cPNB provide superior analgesia with a lower incidence of opioid-induced side effects such as nausea, vomiting, pruritus, and sedation and may offer an improved functional outcome after extremity surgery. Ultrasound is the gold standard nerve localisation tool in performing PNB. Despite numerous advantages of cPNB, there are potential complications that may hinder its efficacy include inaccurate catheter tip location, catheter dislocation, infection at the catheter insertion site, and difficulty removing the catheter. Neurologic injury with continuous blocks is rare and related to multiple risk factors. Other complications that affect single-injection blocks, such as accidental vascular puncture and systemic local anaesthetic toxicity, may also occur with continuous blocks. Complications associated closely with continuous blocks include increased risk of patient falls and problems with the infusion regimen or equipment.

In this presentation, the speaker provides an update of the published evidence for cPNB for acute pain, current trend of utilizing cPNB in the clinical practice, how to make the catheter works and alternative modalities apart from cPNB.

References:

- Chou R, Gordon DB, de Leon-Casasola OA, Rosenberg JM, Bickler S, Brennan T, et al. Management of Postoperative Pain: A Clinical Practice Guideline from the American Pain Society, the American Society of Regional Anesthesia and Pain Medicine, and the American Society of Anesthesiologists' Committee on Regional Anesthesia, Executive Committee, and Administrative Council. J Pain. 2016 Feb;17(2):131-57.
- 2. Ilfeld BM. Continuous Peripheral Nerve Blocks: An Update of the Published Evidence and Comparison with Novel, Alternative Analgesic Modalities. Anesth Analg. 2017 Jan;124(1):308-335.
- 3. Geert-Jan van Geffen, Jörgen Bruhn. Continuous Peripheral Nerve Blocks Safe Practice and Management. Complications of Regional Anesthesia. Principles of Safe Practice in Local and Regional Anesthesia. Editors: Finucane, Brendan, Tsui, Ban C.H.; Springer, 3rd Edition, 2017; 167-188.