ePoster session 6 – Station 5

EP205  ANATOMICAL INSIGHTS INTO INJECTATE SPREAD AFTER THORACIC ERECTOR SPINAE PLANE BLOCK: A SYSTEMATIC REVIEW
Haoyuan Lim*, Christopher Mathew, Yan Ru Tan, Chuen Jye Yee, Yu Jia Thay, Jolin Wong, Christopher W Liu. Anaesthesiology, Singapore General Hospital, Singapore, Singapore
10.1136/rapm-2023-ESRA.266

Background and Aims The Erector Spinae Plane block (ESPB) is an increasingly used to provide analgesia for surgeries involving the chest wall, rib fractures and even cancer pain. Although several meta-analyses that demonstrated the effectiveness of this block, its mechanism of action is still unclear. Anatomical studies on this ESPB injectate spread have found inconsistent results. This systematic review was conducted to summarize the current knowledge about the injectate spread following ESPB.

Methods Pubmed, Scopus and EMBASE were searched. All studies that examined the injectate spread after a thoracic ESPB involving the use of either dissection or imaging were included. The primary outcome was the presence of injectate spread in the various anatomical planes.

Results This review included 29 studies involving 113 cadaveric and 79 live subjects. The proportion of subjects with injectate spread in the erector spinae plane (ESP), intercostal space (ICS), epidural space (ES) and paravertebral space (PVS) was 1 (95% CI: 0.97-1), 0.51 (CI:0.38-0.64), 0.38 (CI:0.28-0.5) and 0.57 (0.49-0.64) respectively. The mean spread of injectate in the ESP, ICS, ES and PVS were 9.1 (CI:5.1-13.2), 4.7 (CI:2.0-9.3), 3.1 (CI 0.1-3.6) and 3.5 (CI: 0-7.3. Compared to cadavers, a larger proportion of patients had injectate spread in the ICS.

Conclusions Based on this study, the likely mechanism of action of the ESPB is via its spread into the intercostal, paravertebral and epidural compartments. While this correlates with current studies showing superiority of ESPB over placebo/control, it also raises the possibility that the clinical effect of ESPB is likely to be unpredictable.

EP206  DIVERGENT MODULATION OF PAIN AND ANXIETY BY GABAERGIC NEURONS IN THE VENTROLATERAL PERIAQUEDUCTAL GRAY AND DORSAL RAPHE
1Linghua Xie*, 2Hui Wu. 1Anesthesiology, Zhejiang University, Zhejiang Hangzhou, China; 2Anesthesiology, Zhejiang University, Hangzhou, China
10.1136/rapm-2023-ESRA.267

Background and Aims In the mammalian brain, the ventrolateral periaqueductal gray (vIPAG) and its neighboring dorsal raphe (DR) nucleus regulate analgesia and anxiety. The vIPAG GABA+ and DR GABA+ neurons display opposite roles in feeding, the specific function of these GABA+ neurons in pain regulation remains unknown. Opioids act on the opioid receptors expressed on vIPAG GABA+ neurons to inhibit GABA release, which in turn exerts anti-nociceptive effects.