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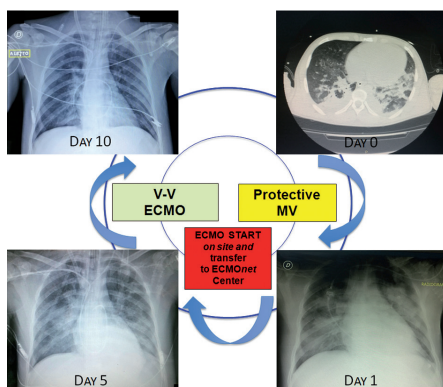


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## ECMO IN SEVERE ARDS PATIENT



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## EDITORIAL

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# Single-shot interscalene block with periarticular local infiltration analgesia for shoulder arthroplasty

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The shoulder joint has the largest motion range of all joints in the human body. In addition, the shoulder is very important for a vertical body position and cosmetic appearance particularly in women. The principles of surgical procedures to the shoulder have mainly remained unchanged, however, arthroscopic shoulder surgery has become even less invasive. Shoulder arthroplasty is often associated with severe postoperative pain, particularly within the first 48 hours. Adequate postoperative pain control is necessary both for the comfort of the patients and for an early use of rehabilitation exercise after shoulder procedures. Regional anesthesia techniques can provide better pain control and improve outcome such as decrease in side effects, improvement of pulmonary function, prevention of chronic pain and reduction in hospital stay when compared with general anesthesia in orthopedic procedures.<sup>1, 2</sup> As a regional technique interscalene brachial plexus block (ISB) with some local anesthetics is commonly used to provide anesthesia and analgesia for shoulder surgery.<sup>3, 4</sup>

Single-shot interscalene block (SSISB) of the brachial plexus can provide anesthesia to the shoulder surgery patients. Additionally, it may provide postoperative analgesia up to eight hours<sup>5</sup> and some beneficial effects like decreasing opioid consumption, and postoperative nausea and vomiting. Whereas continuous ISB with catheters can extend the duration of postoperative analgesia when compared with single-shot

ISB. Therefore, some authors reported that continuous ISB (CISB) with ropivacaine, bupivacaine and levobupivacaine provided adequate pain relief, similar side effects, and high patient satisfaction after shoulder surgery.<sup>3, 4</sup> However, there are some concerns to refrain from the routine use of continuous ISB for the shoulder surgery patients. The concerns related to continuous ISB are to cause phrenic nerve block (100%), persistent hemi-diaphragmatic palsy, catheter malposition (1.5%), dislodgement (1.5%), myotoxicity (0.05%) and infection (3%). Additionally, continuous ISB requires additional time and technical skill for insertion, and more resources for procurement and management. Vorobeichik *et al.*<sup>6</sup> reported these concerns in a meta-analysis study that compared single-shot and continuous ISB, and Rawal<sup>7</sup> consequently, reported that concerns regarding the safety of continuous ISB has limited its clinical use.

In this issue of *Minerva Anestesiologica*, Bojaxhi *et al.*<sup>8</sup> present a new study related to SSISB with periarticular local infiltration analgesia (LIA) for shoulder arthroplasty. In this study, they aimed to evaluate the effect of postoperative pain control, morphine consumption, some side effects like nausea and vomiting and duration of hospital stay for CISB and SSISB in shoulder arthroplasty. They assumed that CISBs have some disadvantages for example cost and waste of time when compared SSISB. And, SSISB with an analgesic cocktail including ropivacaine, mor-

phine, ketorolac and epinephrine may be a good alternative to the CISBs' analgesia. The results of this new study<sup>8</sup> showed that SSISB with LIA provided good postoperative pain control as well as CISB for two days, but rescue morphine consumption was a bit more. However, the patients in the SSISB group had no catheter problems such as catheter failures, catheter discomfort or catheter replacement requests.

There are some limitations related to this new study. First, Bojaxhi *et al.*<sup>8</sup> conducted a retrospective study. We need prospective studies to compare SSISB with LIA and CISB for postoperative pain control, opioid consumption, side effects and patient satisfaction in shoulder surgeries. Second, the investigation of plasma levels of local anesthetics should be performed due to the accidental vascular puncture of the vessels of neck and shoulder. Third, the authors could not evaluate pain scores and opioid or analgesic consumption of the patients after hospital discharge. Consequently, further prospective studies should be conducted in larger groups to investigate side effects, duration of hospital stay, readmission, adverse events or residual symptoms and patient satisfaction.

In conclusion, it can be expressed that there is an increasing interest to the periarticular injections of multimodal analgesics to control of postoperative pain in clinical practice. It may be an alternative to the selective nerve blocks because of easy to use and management. Single shot ISB when combined periarticular injections of analgesics can provide effective postoperative analgesia as well as continuous ISB for shoulder

arthroplasty. However, the duration of effect of it may be terminated before that of the patients who were administered continuous ISB. We need further prospective randomized controlled trials in these issues.

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*Conflicts of interest.*—The author certifies that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

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