

From the TAP for the Abdomen to the ESP for the Spine: Evidence-Based Medicine and the Inertia of Progress [Letter]

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Dear editor

In a recent meta-analysis, Cui et al found that the Erector Spinae Plane (ESP) block reduced opioid consumption after various surgeries, including spine procedures.¹ Given that the transverse process serves as a backstop to needle advancement, theoretically lowering the risk of complications, the ESP block presents as an attractive alternative to neuraxial and paravertebral techniques for postoperative pain management. Thus, pioneer anesthesiologists have begun to leverage the ESP block for patients undergoing spine procedures. However, as is frequently the case with change in clinical medicine, these efforts have at times been met with resistance, often in the form of a request for unequivocal evidence of efficacy.

Although there are randomized controlled trials (RCTs) assessing ESP blocks, the current literature in general has been confounded by conflicting results and methodological issues; eg the findings of Cui et al were limited by considerable heterogeneity.¹ Other recent meta-analyses examining ESP blocks in spine surgery concluded that although ESP blocks did appear to improve postoperative pain scores, the evidence was of low quality;^{2,3} this led one study to conclude that current evidence was insufficient to support widespread use of this technique.³ Therefore, making a concrete argument for the routine use of ESP blocks from an efficacy standpoint is difficult.

However, a useful parallel can be made between the ESP block and the Transversus Abdominis Plane (TAP) block, which has emerged as a useful adjunct for postoperative analgesia for abdominal operations. Early meta-analyses of the TAP block were also based on a limited number of studies with small sample sizes; a 2010 Cochrane analysis stated that “There is only limited evidence to suggest ... perioperative TAP block reduces ... pain scores.” But as more clinicians became comfortable with the technique, an increase in publications led to subsequent meta-analyses concluding that the block should be considered as part of a multimodal approach for several abdominal procedures.⁴

Thus, for some techniques, a demand for rigorous evidence of efficacy may be inappropriate as it hinders the collection of data and development of expertise. In such circumstances, it is best to proceed with a cost/risk/benefit analysis: The ESP block has risks; however, complication rate estimates for serious events (pneumothorax, motor block, and LAST) are approximated to be less than 1/5000.⁵ This is consistent with the above-mentioned meta-analyses, which found no reports of significant adverse events.¹⁻³ Therefore, given that the risks are relatively low, the primary cost of the ESP block appears to be time; a cost that improves with adoption. In other words, the ESP block appears to belong to a category of interventions that have strong evidence for safety, variable levels of evidence for efficacy, and broad application (such as the TAP block or use of acetaminophen). For such interventions, it is reasonable for the early adopter to ask “why not?”. As stated by Tonelli in *The Philosophical Limits of Evidence-based Medicine* “The necessary gap between clinical research and medical practice means that evidence can never directly dictate care”; one must use appropriate clinical judgement to best serve the patient.

Disclosure

The authors report no conflicts of interest in this communication.

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