Abstract OP047 Figure 2  Pain scores were similar for both approaches to the SAPB at 12h (A) and 24h (B) in movement

Abstract OP047 Figure 3  Incidence of PONV was similar both with superficial and deep SAPB approaches

Conclusions  The results revealed no significant differences, suggesting that both approaches offer comparable pain relief benefits.


Abstract OP048 Figure 1  Forest plot of the first rate success rate of thoracic epidural placement

Abstract OP048 Figure 2  Forest plot of the number of needle redirections

Abstract OP048 Figure 3  Forest plot of the rate of successful epidural block

Conclusions  Thoracic epidural insertion is improved by ultrasound but not the success rate. Quality research with larger samples is needed to emphasise that.

Abstracts

Methods  Randomized controlled trials were sought in six databases for a systematic review and meta-analysis. With a 95% confidence interval, a fixed-effects model calculated Risk Ratio or Mean Difference. Cochrane Risk of Bias assessed bias. Four RCTs were examined. The study was registered with PROSPERO with the identifying code CRD42022360527.

Results  Preprocedural ultrasound increased thoracic epidural placement first puncture success rate (RR = 1.28, 95% CI [1.05 to 1.56], P value = 0.02) and decreased the need for two or more skin punctures (MD = -2.41, 95% CI [-3.34 to -1.47], P value = 0.0001). The ultrasound group reduced needle redirections (RR = 0.6, 95% CI [0.38 to 0.94], P value = 0.02). The epidural block success rate was equal in both groups (RR = 1.02, 95% CI [0.96 to 1.07], P value = 0.6).

OP048

CONVENTIONAL ANATOMICAL LANDMARK VERSUS PREPROCEDURAL ULTRASOUND FOR THORACIC EPIDURAL ANALGESIA: A SYSTEMATIC REVIEW AND META-ANALYSIS

1Mahfouz Sharapi*, 2Ammar Mektebi, 3Kerollos George Philip, 4Khaled Anwer Albakri, 5Amany E Mahfouz. 1Ourl Lady Of Lourdes Hospital, Drogheda, RCSI Group, Ireland, Dublin, Ireland; 2faculty of medicine, Kütahya, Turkey; 3Faculty of Medicine, Sohag University, Sohag, Egypt; 4The Hashemite University, Jordan, Amman, Jordan; 5Faculty of Medicine, Kafrelsheikh University, Egypt.

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Please confirm that an ethics committee approval has been applied for or granted: Not relevant (see information at the bottom of this page)

Application for ESRA Abstract Prizes: I apply as an Anaesthesiologist (Aged 35 years old or less)

Background and Aims  Thoracic epidural analgesia is the gold standard for major thoracic and upper abdominal surgeries. To effectively perform epidural analgesia, the epidural space should be localised accurately. Various techniques have been described to facilitate accurate needle insertion; including surface landmark and ultrasound-assisted techniques. Practitioners have relied on the surface palpation landmark method and loss extensively. However, this technique can sometimes be challenging to access the thoracic epidural area and carries substantial failure rates, especially in obese patients or those with oedema on the back. This meta-analysis compares the efficacy of the US-assisted versus landmark-based thoracic epidural insertion via the paramedian route.

Methods  Randomized controlled trials were sought in six databases for a systematic review and meta-analysis. With a 95% confidence interval, a fixed-effects model calculated Risk Ratio or Mean Difference. Cochrane Risk of Bias assessed bias. Four RCTs were examined. The study was registered with PROSPERO with the identifying code CRD42022360527.

Results  Preprocedural ultrasound increased thoracic epidural placement first puncture success rate (RR = 1.28, 95% CI [1.05 to 1.56], P value = 0.02) and decreased the need for two or more skin punctures (MD = -2.41, 95% CI [-3.34 to -1.47], P value = 0.0001). The ultrasound group reduced needle redirections (RR = 0.6, 95% CI [0.38 to 0.94], P value = 0.02). The epidural block success rate was equal in both groups (RR = 1.02, 95% CI [0.96 to 1.07], P value = 0.6).

OP049

ROPIVACAINE CONCENTRATIONS AFTER ULTRASOUND-GUIDED ERECTOR SPINAE PLANE BLOCK IN CARDIOTHORACIC SURGERY


10.1136/rapm-2023-ESRA.49

Please confirm that an ethics committee approval has been applied for or granted: Yes: I’m uploading the Ethics Committee Approval as a PDF file with this abstract submission

Application for ESRA Abstract Prizes: I apply as an Anaesthesiologist (Aged 35 years old or less)

Background and Aims  Fascial plane chest wall blocks are increasingly employed in minimally-invasive surgery (MIS),
Despite an abundance of literature, comparative data on safety profile and risk of local anesthetic systemic toxicity (LAST) are lacking. This study aims at evaluating safety and pharmacokinetic profile of ropivacaine after erector spinae plane (ESP) block in MIS cardiac and thoracic procedures.

**Methods** We prospectively enrolled 34 patients. 17 patients were scheduled for MIS valve replacement and 17 patients underwent video-assisted thoracoscopic surgery (VATS). The patients received unilateral ESP block (0.375% ropivacaine, 40 ml). Arterial blood samples were collected at 5, 15, 30, 60, 120 and 180 minutes after the block. Free and total ropivacaine concentrations were measured. First, safety and incidence of LAST have been evaluated. Then, the comparison of the pharmacokinetic drug profile has been performed.

**Results** No clinical manifestations of LAST were observed. In the thoracic group, the mean peak of total and unbound ropivacaine concentration were respectively 2510 ng/ml and 22 ng/ml and occurred 20 min post-injection. 10 patients presented concentrations above the potentially toxic threshold of 2200 ng/ml. In the cardiac group, the mean peak of total and unbound ropivacaine concentration were significantly lower, respectively 1260 ng/ml and 12 ng/ml, and reached potentially toxic concentrations only in four patients.

**Conclusions** Ropivacaine pharmacokinetic after ESP shows a homogeneous behavior with a rapid peak concentration and a prolonged half-life, probably due to reabsorption phenomena. Despite peak concentrations exceeding the accepted toxicity threshold, in particular concerned with thoracic surgery, no adverse events related to LA toxicity were reported.

**Background and Aims** Ultrasound-guided obturator nerve (ON) block was initially described by Helayel, utilizing adductor muscles as anatomical landmarks. However, more proximal subpectineal approaches to ON block lack clear ultrasound references. The objective of our study is to describe the subpectineal ultrasound-guided technique, employing precise ultrasound references for accurate localization of the nerve.

**Methods** We conducted an anatomical study on eight cadaveric models (16 blocks). Using ultrasound and a linear probe positioned sagittally over the pubis, we performed a medial-to-lateral sweep to identify the complete obturator foramen. On the lateral side of the obturator foramen, the neurovascular bundle was located beneath the superior pubic ramus and above the obturator external muscle, covered by the pectineus muscle (figure 1). An out-of-plane approach (lateral to medial) was performed using an 80 mm needle, targeting the region adjacent to the obturator membrane (figure 1 – gray circle). A 5 ml solution (0.02% methylene blue) was injected. Anatomical dissection of the samples was conducted to assess the involvement of the ON at different levels (intrapelvic, common trunk, anterior and posterior branches of the ON).

**Results** Anatomical dissection revealed methylene blue staining of the ON at the intrapelvic level in nine cases (56%), as well as in the obturator foramen (common trunk) and the anterior and posterior branches in all cases (16, 100%) (figure 2).