inclusion in the review of a prognostic block with local anaesthetics (LA).

In conclusion we can say that RF is a safe, minimal-invasive, technique to treat chronic shoulder pain in middle-long term, but large-scale studies, and controlled comparative-effectiveness trials, are required to better asses efficacy and effectiveness of RF treatments for shoulder pain.

REFERENCES

SP28 ERECTOR SPINAE PLANE BLOCK (ESPB) FOR BREAST SURGERY

Y. Gürkan,1,* EY. Açıkalın.1 Anesthesiology and Reanimation, Koç University Hospital, Istanbul, Turkey; 2Department of Anesthesiology and Reanimation, Koç University Hospital, Istanbul, Turkey

Erector spinae plane block (ESPB) is a novel regional anesthetics technique which can be used for pain management for various thoracic and abdominal surgeries. In a recent paper by Hussain et al., ESPB is considered as clinically ineffective block for breast surgery, although effect is statistically significant. In various studies and our clinical experience ESPB is found effective in decreasing 24-hour opioid consumption1–3, Gürkan et al.1 report that ESPB at T4 level with 20mL of 0.25% bupivacaine can decrease 24-hour IV morphine consumption from 16.6±6.92 mg to 5.76±3.8 mg. In another study, Gürkan et al.2 report that ESPB in similar technique decreased 24-hour IV morphine consumption from 14.92±7.44 mg to 5.6±3.43 mg. Aksu et al. used double injections at T2 and T4 with 10 mL of 0.25% bupivacaine each, total of 20 mL, it resulted as a decrease in 24-hour IV morphine consumption from 13.2±4.98 mg to 3.02±2.06 mg.

Significant reduction in opioid consumption is especially important, as recent trends in USA shows increasing opioid related death, most importantly synthetic opioid overdose is increasing4. At 2019, opioid overdose caused 49,860 deaths in USA, 36,359 of them involved synthetic opioids5. Using multimodal analgesia, including invasive procedures allow us to decrease opioid consumption and avoid long-term effects of opioids, including opioid use disorder. Hussain et al confirms that ESPB succeeds in decreasing IV morphine consumption, while also decreasing the pain scores without decreasing patient comfort6,7.

ESPB has limited reported complications, most of them related to systemic toxicity of local anesthesia, which can be avoided by performing a careful technique and strictly adhering to the general safety rules of regional anesthesia. Therefore, ESPB is clinically effective yet at the same time very safe approach.

Secondary benefits of ESPB have not been proven yet because current studies focused mainly on postoperative opioid requirement. We think that if large case series or studies are performed, we will learn more about secondary benefits of ESPB for breast surgery. These include time to discharge, PONV incidence and the influence on chronic postsurgical pain following breast surgery.

In conclusion, ESPB is a valuable part of multimodal analgesia, it decreases opioid consumption with possible secondary benefits as well. Therefore, we conclude that it must be included in the arsenal of every anesthetist.

REFERENCES

SP29 ‘LOCAL ANAESTHETICS AND TOXICITY: WHAT’S NEW?’

Stefan Heschl, Medical University of Graz, Austria

Local anaesthetic systemic toxicity (LAST) is often considered a rare event especially with the increasing use of ultrasound...
for regional anaesthesia. Even though the incidence varies across studies and across different settings assuming a rate of 1−2 per 1000 blocks is considered reasonable. With the rise of regional anaesthesia it can be expected, that many anaesthesiologists will experience a case of LAST during their career especially when caring for populations at increased risk such as paediatric and geriatric patients.

LAST, however, is not a complication that only occurs in the operating theatre under the care of anaesthesiologists and many non-anaesthesiologists might often not even be aware of LAST, its recognition and treatment.1

Traditionally, LAST has been expected to occur after unintentional intravascular injection, however toxic plasma concentrations can also occur secondary to systemic absorption after correct local anaesthetic injection in nerve and fascial plane blocks2 and also intentional intravenous lidocaine infusion.3

Various preventative measures can potentially reduce the incidence of LAST events.

When LAST is suspected, early recognition with attention to central-nervous and cardiac symptoms remains paramount. Even though there is still debate about the exact mechanism of action, lipid emulsion therapy is now an established pillar in LAST therapy. Controversy exists in regards to adrenaline dosing in case of local anaesthetic induces cardiac arrest. While German Anaesthesia4 and European Resuscitation guidelines5 recommend standard dosing of 1mg recent ASRA guidelines6 recommend against this and suggest initial adrenaline doses of 1mcg/kg or lower.

Since Erector Spinae Plane Block (ESP) was first described by Forero et al.1 in 2016, more than 103 prospective, retrospective, animal and paediatric RCTs have been published.2 There is great interest in ESP block that is seen on plethora of indications and different publications ranging from acute to chronic pain and surgery on upper limb through the trunk and spine to lower limb.4−6 Several meta-analyses have shown that ESP block can provide sufficient analgesic effects and reduce postoperative opioid consumption; however, the results are not convincing enough due to the small number of cases included and significant heterogeneity among studies.7 8

There are blocks in the past that have been used in variety of indications like 3-in-1 block, transversus abdominis plane (TAP) block or ganglion sphenopalatine block (GSPB) before they have been put to the test in RCTs. Only a handful of complications associated with ESP have been published and same applies on negative results, therefore we can expect publication bias. On the other hand, there are randomized controlled trials (RCTs) documenting ESP block efficacy.9

We know that statistical significance is not the same as clinical significance, or it is? For example, anRCT from China analyzed efficacy of ESP block in relation to perioperative pain control and short-term outcomes in lumbar laminoplasty.10 Postoperative sufentanil consumption was 75.375 ±9.349 in control group and 65.067 ±13.421 in ESP group in 48 hours postoperatively (p = 0.000). Is it clinically important if we have mean difference of 10 mcg of sufentanil in 48 hours? I would say no, it is not.

There is another thing about ESP that jumps out when analyzing data. Consistency of analgesia is low. The number of PCA Attempts after laminoplasty has a much wider range in the ESP group than in the control group (10). Also, a retrospective study from USA concluded that there was no difference in VAS score, but statistically significantly lower Morphone equivalent dose by 15 mg in 24 hours and faster discharge with 5-hour difference with high heterogeneity in ESP group.7

This field block brought new light to the world of spine surgery anaesthesia. These patients often fear postoperative pain, which can be a source of considerable preoperative distress. In spine surgery, postoperative pain can often be severe, especially in first 24 hours after surgery.11 It is difficult to achieve pain control if a one-dimensional approach is used. There have been many studies that combined different modalities, like epidural catheters, spinal and epidural morphine, or local infiltration, in pain treatment after spine surgery.12 There are often contraindications, severe pain that prevents positioning or technical difficulties to site catheter, that won’t interfere with surgical field. Spine surgery is perhaps the only field where, when performing the ESP block, the relatively greater distance of the needle tip from nervous structures, which might be compromised by acute or chronic process that brought patient to the OR, is beneficial when compared to the gold standard techniques. But again, the benefits of ESP block in spine surgery according to data seems to be marginal.7 In modern era of perioperative medicine, ultrasound is ubiquitous, therefore performance of plane blocks like ESP block and other novel techniques are relatively easy and safe. These new blocks are common in clinical practice despite of limited proof of effectiveness 6,13; therefore ESP block is not recommended for spine surgery by PROSPECT because of limited evidence.20

Besides, the mechanism of ESBP is still indeterminate. In the cadaveric study, no spreading of the dye into the paravertebral space was observed to involve the origin of the ventral and dorsal branches of the thoracic vertebral nerves14 indicating the extent of blockage was not as wide as that observed in the initial clinical finding.1 Besides, ESP block was performed in six male volunteers, and the authors found that cutaneous sensory loss varied greatly between individuals15 and didn’t reach anterior thorax which suggests that only posterior rami of spinal nerves are involved in ESP block. Direct evidence is presently lacking and analgesia of ESP block is unpredictable and variable, that result from myriad factors at play.13

Meta-analysis of available RCTs by Oh on ESP block used in lumbar surgery brought the conclusion that higher-quality evidence is needed16 while meta-analysis of RCTs where single shot ESP block was used in various surgeries concluded that: ESP block reduced the accumulated opioid consumption during the first 24 h after surgery, but with considerable heterogeneity. This plane block also reduced time to first analgesia after surgery by 5 hours, but again with considerable heterogeneity.2 Another meta-analysis from Kyeong et al. showed that ESP block provided effective analgesia after lumbar spine surgery. However, the low-grade quality of evidence compromised the findings, therefore further high-quality of evidence is required.20

Abstracts