ePoster session 5 – Station 6

EP175 ASSESSING DIAPHRAGMATIC FUNCTION USING POINT OF CARE ULTRASOUND AFTER INTERSCALENE BRACHIAL PLEXUS BLOCK

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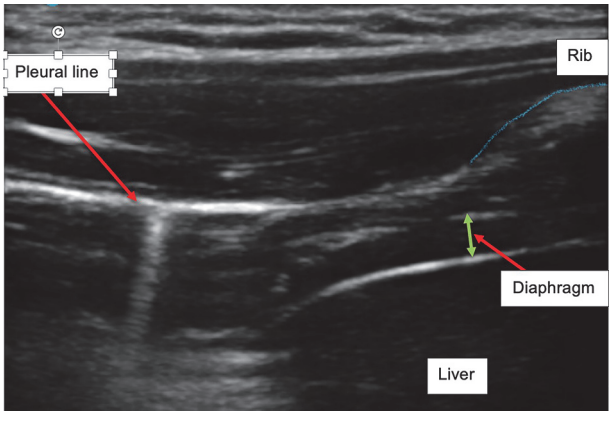
Background and Aims Interscalene brachial plexus block confers a high risk of transient phrenic nerve palsy, which may lead to respiratory compromise. Novel ultrasonographic approaches use a high-frequency linear probe to evaluate diaphragmatic functionary simple to perform and easy to teach, therefore accessible to the everyday anaesthetist. We evaluated two techniques in assessing diaphragmatic function after interscalene brachial plexus block.

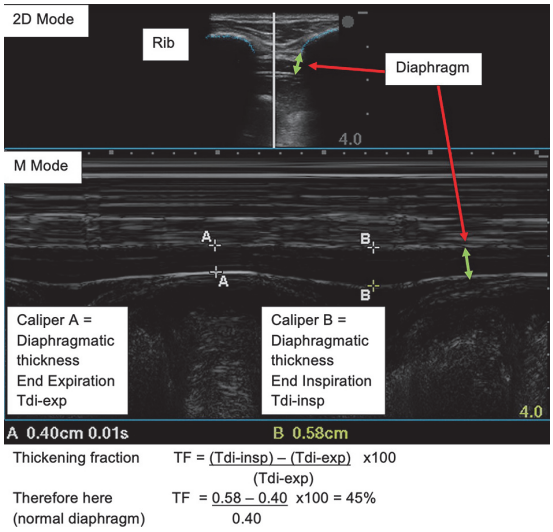
Methods Two ultrasound techniques: 1) Change in thickness and calculation of the thickening fraction in M-mode as described by Santana et al in 2020 2) Qualitatively and quantitatively determining diaphragmatic excursion in the simplified technique described by El-Boghdadly et al in 2017. Patient parameters including body mass index and respiratory comorbidity, peak expiratory flow rate and local anaesthetic type and volume were recorded.

Results We collected data on 21 patients (all gave consent). Average BMI 28.6 (range 20-42) and average age 54.6 years (range 25-70). 3 patients required oxygen in recovery, 1 had subjective dyspnoea. Ultrasonographic data on diaphragmatic thickening and excursion can be seen in the attached table of results. Average total scan time scan time was 10 minutes (range 5-20).

Conclusions Our results show a greater decrease in both diaphragmatic thickening fraction and excursion on the side of the interscalene block. Point of care ultrasound is a useful technique in identifying phrenic nerve palsy following ultrasound-guided interscalene brachial plexus block. It is a simple and effective technique that can be easily learned, readily applied, and utilised in the acute setting to provide an immediate picture of diaphragmatic function.



Abstract EP175 Figure 1 Pleural Excursion Ultrasound Image (courtesy of Peter Daum co-author)



Abstract EP175 Figure 2 Diaphragm Thickness Ultrasound Image (courtesy of Peter Daum co-author) with thickening fraction calculations

Results table.docx

EP176 ERECTOR SPINAE PLANE BLOCK VS. PECTO-INTERCOSTAL FASCIAL PLANE BLOCK VS. CONTROL FOR STERNOTOMY: A PROSPECTIVE RANDOMIZED TRIAL

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Background and Aims Many patients that undergo cardiac surgery via median sternotomy experience uncontrolled postoperative pain leading to prolonged intubation, impaired recovery, and the development of chronic pain. The erector spinae plane (ESP) block and the pecto-intercostal fascial (PIF) plane block have been used as multimodal analgesia for sternotomy pain. The purpose of this study was to compare the analgesic efficacy of ESP blocks and PIF blocks versus no block in patients under general anesthesia undergoing sternotomy for cardiac surgery.

Methods This randomized prospective control trial was conducted at an academic care center and included 90 participants. The primary endpoint was opioid consumption during post operative days (POD) 0, 1, 2, 3, 4, and 5. Secondary endpoints included Visual Analog Scale pain scores, time to extubation, ICU length of stay (LOS), total postoperative LOS, and nausea/vomiting after extubation.

Results Among the patients included, 30 received bilateral ESP block, 30 received bilateral PIF block, and 30 received no block. No significant differences in post-operative opioid consumption as measured in MME on POD 0, 1, 2, 3, 4, or 5 were seen between groups. When analyzing VAS scores at POD 0,1,2, and 3 between groups, there was a statistically significant difference between the ESP block group compared to the control group.

Abstract EP176 Table 1 Comparison of control, ESP, and PIF treatment groups across baseline and outcome variables

Table 1: Comparison of Control, ESP, and PIF treatment groups across baseline and outcome variables

	Control (N=30)	ESP (N=30)	PIF (N=30)	*p-value*	Total (N=90)
Baseline Variables					
Age (mean)	63.8 (SD 8.30)	63.8 (SD 12.2)	64.9 (SD 5.87)	0.858	64.2 (SD 9.09)
Gender					
Female	8 (26.7%)	6 (20.0%)	3 (10.0%)	0.252	17 (18.9%)
Male	22 (73.3%)	24 (80.0%)	27 (90.0%)		73 (81.1%)
BMI (mean)	26.1 (SD 5.38)	27.5 (SD 5.19)	29.4 (SD 7.63)	0.471	28.3 (SD 6.15)
Tobacco Use	15 (50.0%)	15 (50.0%)	16 (53.3%)	0.743	46 (51.1%)
Alcohol Use	1 (3.3%)	3 (10.0%)	6 (20.0%)	0.138	10 (11.1%)
Recreational Drug Use	2 (6.7%)	4 (13.3%)	3 (10.0%)	0.726	9 (10.0%)
Hypertension	26 (86.7%)	26 (86.7%)	23 (76.7%)	0.487	75 (83.3%)
Hyperlipidemia	25 (83.3%)	24 (80.0%)	25 (83.3%)	0.927	74 (82.2%)
Diabetes	14 (46.7%)	16 (53.3%)	19 (63.3%)	0.427	49 (54.4%)
Asthma	2 (6.7%)	6 (20.0%)	1 (3.3%)	0.140	9 (10.0%)
Ejection Fraction (mean)	55.7 (SD 10.5)	49.2 (SD 13.6)	56.3 (SD 8.15)	0.031	53.7 (SD 11.3)
Outcome Variables					
MME POD0 (mean)	2.77 (SD 2.78)	2.71 (SD 2.64)	3.77 (3.53)	0.315	3.08 (SD 3.02)
MME POD1 (mean)	25.3 (SD 23.3)	24.3 (SD 21.1)	30.3 (SD 23.9)	0.557	26.6 (SD 22.7)
MME POD2 (mean)	23.8 (SD 24.8)	16.2 (SD 13.2)	23.5 (SD 18.9)	0.243	21.2 (SD 19.7)
MME POD3 (mean)	15.0 (SD 19.6)	11.2 (15.4)	13.3 (SD 15.4)	0.677	13.2 (SD 16.8)
MME POD4 (mean)	9.94 (SD 12.1)	9.58 (SD 16.1)	10.1 (SD 17.3)	0.990	9.88 (SD 15.1)
MME POD5 (mean)	6.93 (SD 14.1)	8.43 (SD 13.7)	4.44 (SD 8.25)	0.450	6.60 (SD 12.3)
Total MME POD0-3 (mean)	83.7 (SD 71.7)	72.4 (SD 51.8)	85.4 (SD 52.0)	0.653	80.5 (SD 58.8)
MME Intraop (mean)	280 (SD 80.5)	274 (SD 106)	246 (SD 79.7)	0.281	267 (SD 89.7)
POD0 VAS Mean	2.16 (SD2.44)	1.61 (SD1.65)	2.07 (SD2.31)	0.573	1.95 (SD2.15)
POD0 VAS Median	1.62 (SD2.46)	1.03 (SD1.81)	1.82 (SD2.43)	0.38	1.49 (SD2.25)
POD1 VAS Mean	2.69 (SD 1.29)	2.57 (SD1.28)	2.92 (SD1.23)	0.546	2.73 (SD1.26)
POD1 VAS Median	1.92 (SD1.81)	1.63 (SD1.74)	2.22 (SD1.77)	0.446	1.92 (SD1.77)
POD2 VAS Mean	2.75 (SD1.68)	2.20 (SD1.34)	2.12 (SD0.988)	0.154	2.36 (SD1.38)
POD2 VAS Median	1.70 (SD1.53)	1.32 (SD1.86)	1.00 (SD1.08)	0.21	1.34 (SD1.53)
POD3 VAS Mean	1.71 (SD1.25)	1.39 (SD1.24)	1.34 (SD1.02)	0.411	1.48 (SD1.17)
POD3 VAS Median	0.900 (SD1.09)	0.767 (SD1.46)	0.45 (SD0.994)	0.333	0.706 (SD1.20)
Time to extubation (mean, hours)	8.51 (SD 4.95)	8.47 (SD 5.06)	8.74 (SD 5.05)	0.976	8.57 (SD 4.97)
ICU LOS (mean, days)	3.33 (SD 1.73)	3.28 (SD 1.79)	3.21 (SD 1.59)	0.965	3.28 (SD 1.69)
Total LOS (mean, days)	5.83 (SD 1.74)	6.10 (SD 1.42)	5.97 (SD 1.50)	0.804	5.97 (SD 1.55)
Postoperative nausea/vomiting	10 (33.3%)	6 (20.0%)	1 (3.3%)	0.065	17 (18.9%)

Conclusions These results indicate that the administration of ESP or PIF block for sternotomy does not modulate opioid use throughout the average ICU LOS duration for these patients, as compared to the control however may contribute to improved patient experience as indicated by lower pain scores.

EP177 COMPARISON OF PERIOPERATIVE PREGABALIN AND DULOXETINE ON PAIN AFTER TOTAL KNEE ARTHROPLASTY

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Background and Aims Chronic residual pain after total knee arthroplasty (TKA) is one of the challenges of postoperative pain management. Duloxetine in controlling neuropathic pain and pregabalin by affecting nociceptors can be effective in postoperative pain management. The aim of this study is to compare the effect of perioperative oral duloxetine and pregabalin in pain management after knee arthroplasty.

Methods In this clinical trial, 90 patients scheduled for TKA under spinal anesthesia were randomly assigned to one of three groups A (Pregabalin 75 mg), B (Duloxetine 30 mg), and C (Placebo). Drugs were administered 90 minutes before, 12 and 24 hours after surgery. Visual analog pain score (VAS), the first analgesic request time, postoperative analgesic consumption (i.v. paracetamol), and WOMAC score six months after surgery were recorded.

Results VAS score and analgesic consumption 48 hours after TKA in groups A and B had a significant decrease compared to placebo ($p<0.05$). The first analgesic request time in groups A and B was longer than the group C ($p<0.05$). Of note, while the differences were statistically significant, they are most likely not clinically significant. The WOMAC score before and 6 months after the arthroplasty did not differ between the groups ($p>0.05$).

Conclusions Perioperative oral pregabalin and duloxetine similarly reduces pain and the need for analgesic consumption within 48 hours after TKA, but has no effect on knee mobility status.

EP178 COMBINED SPINAL EPIDURAL ANESTHESIA WITH HYPERVOLEMIC HEMODILUTION TECHNIQUE SHOWED GOOD FETOMATERNAL OUTCOMES IN PLACENTA ACCRETA SPECTRUM PATIENTS WHO UNDERWENT ELECTIVE SECTIO CESAREAN SURGERY: A CASE SERIES

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Background and Aims Placenta accreta(PA) remains as one of the leading causes of peripartum hemorrhage. Regional anesthesia and hypervolemic hemodilution techniques remain controversial in the PA case. We aim to describe the use of combined spinal epidural(CSE) anesthesia with hypervolemic hemodilution technique and fetomaternal outcomes in our patients.

Methods We present four cases of parturient with a median age of 32 years old, who have a history of section cesarean surgery and are suspected of placenta accreta in their current pregnancy.

Results Physical examination and laboratory results show no abnormalities in all patients. The probability of PA using placenta accreta index(PAI) was about 19-69%. Two large 18G calibers of intravenous line and arterial line were inserted, then hypervolemic hemodilution calculated using formula: Estimated Blood Volume(EBV)×[(Initial hematocrit(HO)-targeted hematocrit(Hf))/Hf] given around 1,5-2,5 liters of fluid before we conducted CSE anesthesia. The placenta accreta was documented and hysterectomy was done in all patients. Intra-operative hypotension was quickly resolved with fluid loading and vasopressor drugs. The bleeding was around 2-4 liters replaced by a<50% red pack cell transfusion. Post-operative hematocrit level was 28-30%. The APGAR score was good in all the