Poster No: 21

Use of Virtual Reality to improve patient experience for awake upper limb surgery under regional anaesthesia

Ashleigh Johnstone[1], David Johnston[2,3], Cormac McGrath[4]

[1]CT3 Anaesthetics Trainee, Belfast Health and Social Care Trust, Belfast, United Kingdom. [2]Consultant Anaesthetist, Belfast Health and Social Care Trust, Belfast, United Kingdom. [3]RA-UK Local Organising Committee of Conference, Belfast, United Kingdom. [4]Clinical Scientist, Regional Medical Physics Service, Belfast Health and Social Care Trust, Belfast, United Kingdom

Abstract

Introduction

Virtual Reality (VR) is a method of distraction providing the user with the illusion or perception of being immersed within a three-dimensional, computer generated environment. Moon et al[1] demonstrated that patients preferred VR to midazolam sedation when undergoing endoscopic urological surgery.

This patient satisfaction survey was developed to assess feasibility of implementing VR for awake patients undergoing upper limb orthopaedic procedures.

Methods

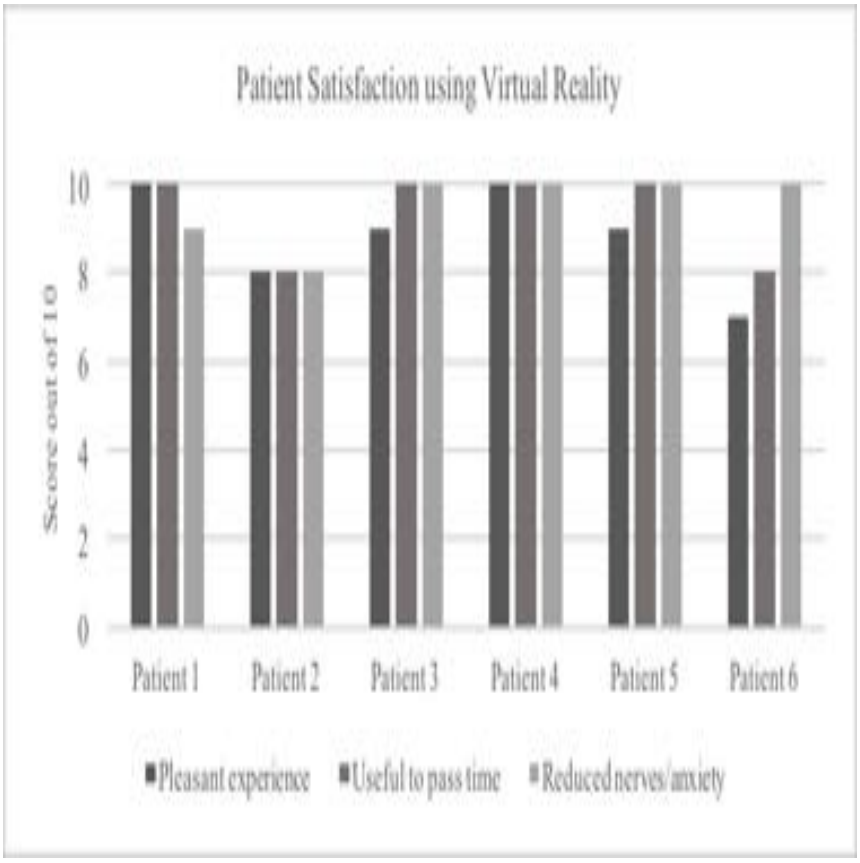
VR was utilised on two operating lists for patients undergoing awake upper limb surgery. The VR environment was provided by Google Daydream via a Samsung Galaxy Note9 mobile phone and a Virtoba X5 Elite 3D VR headset.

Patients completed a questionnaire following the procedure. Additional data on patient demographics, positioning, duration of surgery and time under VR were also recorded.

Results

Six patients participated in this project. Average age was 60.7 years; 80% were female.

Figure 1 shows results of survey.



All of the participants would recommend this to others and would use the VR technology again themselves. Adverse effects reported related to the weight of the device and one patient felt uncomfortably warm. Average time spent under VR was 31.5minutes, with maximum duration of 75minutes. One patient removed the device before the end of the procedure.

Discussion

Patients consistently reported a positive experience with VR distraction. It was an effective adjunct to reduce sedation in regional anaesthesia while still maintaining a high level of user satisfaction. VR was easily applied to patients for short procedures and was found to cause minimum disruption to the theatre environment.

References

References:

1. Moon et al. Virtual Reality Distraction during Endoscopic Urologic Surgery under Spinal Anesthesia: A Randomized Controlled Trial. *Journal of Clinical Medicine*. 2019 Jan; 8(1):2.

Poster No: 22

Supra-Inguinal Fascia Iliaca Compartment Block for Knee Replacement: A case series

James Lloyd, Natalya Acres, Muthu Marimuthu, David Burckett-St Laurent

Royal Gwent Hospital, Newport, United Kingdom

Abstract

Introduction

Knee replacement has significant risk of chronic post surgical pain (up to 53%), one key risk factor for this is lower quality post surgical pain control[i].

Our current practice is sub arachnoid block with intrathecal morphine, plus adductor canal block and local infiltration of the posterior capsule.

Addition of obturator nerve block to a femoral triangle block improves perioperative pain control, however our current practice does not cover the obturator nerve.[ii][iii]

Supra inguinal fascia iliaca compartment block (SIFICB) provides obturator, femoral, and lateral femoral cutaneous nerve block, improves analgesia after total hip replacement, and is used in our trust for analgesia for fractured neck of femur.[iv][v]

Case series

7 Patients underwent knee replacement with subarachnoid block with no intrathecal morphine using SIFICB and catheter placement to provide 0.5% Lignocaine/1:200,000 adrenaline at 8ml/hour via an elastomeric pump.

We then reviewed their physiotherapy notes, pain scores, acute pain team visits, and post operative morphine doses to ascertain their effectiveness and look for any complications.

Discussion

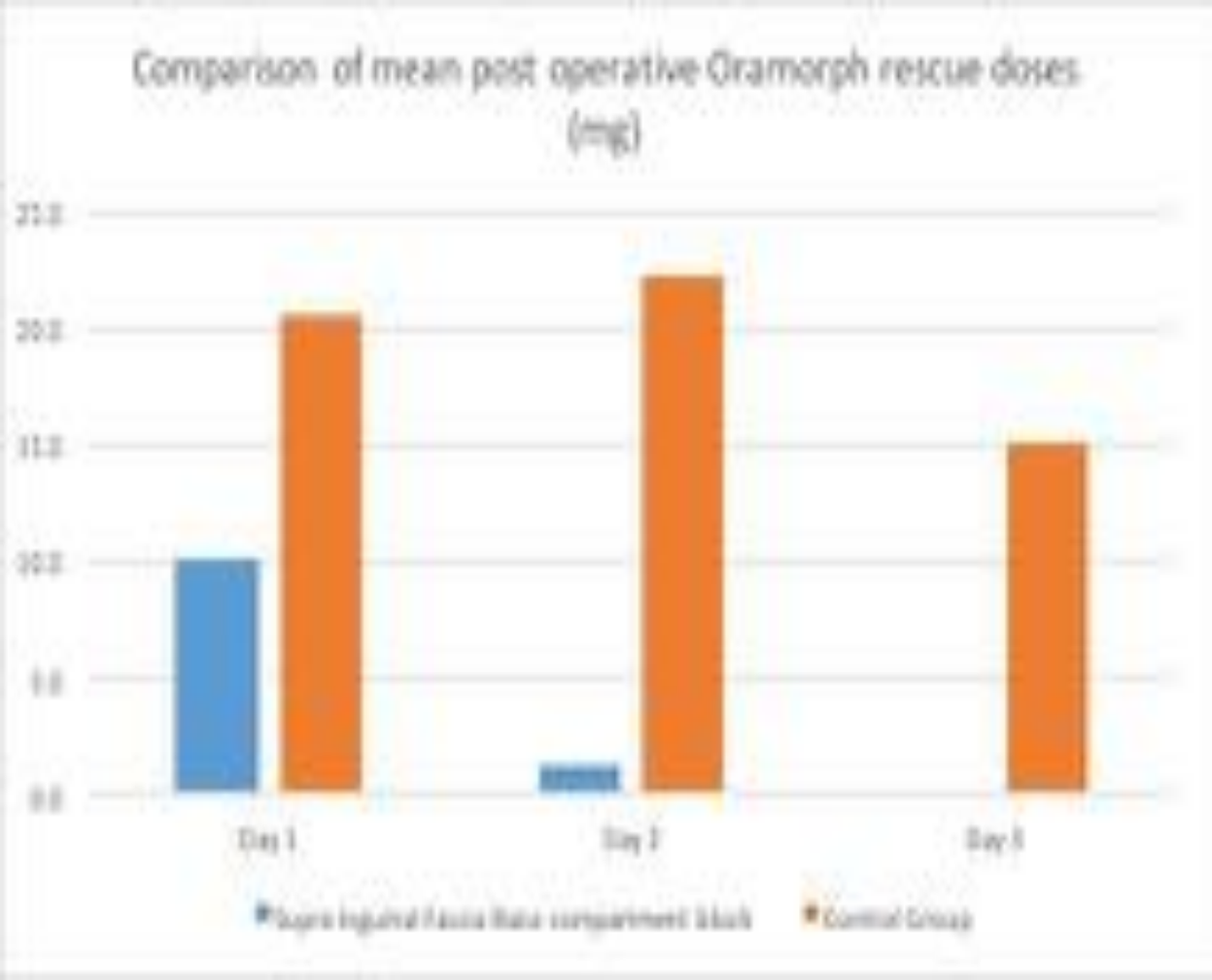
All patients were able to mobilise and engage with physiotherapy, implying that a low concentration SIFICB does not create limiting motor weakness.

No adverse events were recorded.

No failures of analgesia, with lower mean post operative morphine usage, showing SIFICB can provide effective analgesia for knee replacement.

Significant Itching in control group, not SIFICB group.

In summary this case series shows that SIFICB catheters show promise as a post operative analgesic technique for knee replacement, and warrant further research.



References

[i]Liu SS, Buvanendran A, Rathmell JP*, et al*. A Cross-Sectional Survey on Prevalence and Risk Factors for Persistent Postsurgical Pain 1 Year After Total Hip and Knee Replacement. *Regional Anaesthesia and Pain medicine*. 2012;**37:**415-422.

[ii]Runge C, Børglum J, Jensen JM*, et al*. The Analgesic Effect of Obturator Nerve Block Added to a Femoral Triangle Block After Total Knee Arthroplasty: *A Randomized Controlled Trial. Regional Anaesthesia and Pain medicine.* 2016;**41:**445-451.

[iii]Runge C, Jensen JM, Clemmesen L*, et al.*Analgesia of Combined Femoral Triangle and Obturator Nerve Blockade Is Superior to Local Infiltration Analgesia After Total Knee Arthroplasty With High-Dose Intravenous Dexamethasone. *Regional Anaesthesia and Pain medicine.*2018;**43:**352-356.

[iv]Desmet M, Vermeylen K, Van Herreweghe I*, et al.*A Longitudinal Supra-Inguinal Fascia Iliaca Compartment Block Reduces Morphine Consumption After Total Hip Arthroplasty. *Regional Anaesthesia and Pain medicine*. 2017;**42:**327-333.

[v]Nielsen TD, Moriggl B, Barckman J*, et al*. The Lateral Femoral Cutaneous Nerve: *Description of the Sensory Territory and a Novel Ultrasound-Guided Nerve Block Technique. Regional Anaesthesia and Pain medicine.*2018;**43:**357-366.

Poster No: 23

Using a combined paravertebral and pecto-intercostal fascial plane block for awake breast surgery to reduce post-operative morbidity.

Sara Ko, Maryam Zaky, Amit Pawa

Guys and St Thomas's Hospital , London, United Kingdom

Abstract

Introduction: Combined thoracic paravertebral and pectoral nerve blocks has been cited[1,2,3,4] as an effective technique for breast surgery. We present a case of a high-risk ASA 4 patient who successfully underwent surgery with regional anaesthesia and conscious sedation.

Case: A 61 years old female requiring mastectomy and axillary lymph node clearance due to left breast carcinoma. Significant medical background of chronic hypoxia and right heart failure on home oxygen as a result of interstitial lung disease and emphysema. Multidisciplinary team agreement to avoid general anaesthesia due to high risk of respiratory complications and death.

Regional anaesthesia performed after sedation with low-dose midazolam and fentanyl. Paravertebral block undertaken using real-time ultrasound scan with 20ml of solution containing 10ml 2% lidocaine with 1/200,000 adrenaline and 10ml 0.5% levobupivacaine. Following this, PECS 2 block was sited using 30ml of solution containing 10ml 1% lidocaine with 1/200,000 adrenaline, 10ml 0.25% levobupivacaine and 10ml 0.9% saline. 5ml 1% lidocaine was administered for the pecto-intercostal fascial block (PIFB).

Intra-operatively, conscious sedation with Propofol Target Controlled Infusion (TCI). Only a total of 50mcg fentanyl required throughout as supplemental analgesia. Good post-operative pain control achieved with single dose of dihydrocodeine and regular oral paracetamol and ibuprofen. Patient discharged after 48 hours of level 1 care.

Discussion: We have demonstrated the feasibility of using regional anaesthesia for achieving good result for breast surgery with axillary lymph clearance. Wider utilisation of this can effectively avoid patients needing ITU admissions and potential perioperative complications that might have resulted from general anaesthesia.

References

1- Pawa, A., Wight, J., Onwochei, D.N.,Vargulescu, R., Reed, I., Chrisman, L., Pushpanathan, E., Kothari, A. and El-Boghdadly, K. 2018. Combined thoracic paravertebral and pectoral nerve

blocks for breast surgery under sedation: a prospective observational case series. Anaesthesia; 73: 438-443.

2- Pei L, Zhou Y, Tan G, et al. 2015. Ultrasound-assisted thoracic paraver-tebral block reduces intraoperative opioid requirement andimproves analgesia after breast cancer surgery: a randomized,controlled, single-center trial.PLoS ONE;10: 1–15.

3- Abdallah FW, Morgan PJ, Cil T, et al. 2014. Ultrasound-guided multi-level paravertebral blocks and total intravenous anesthesiaimprove the quality of recovery after ambulatory breasttumor resection. Anesthesiology;120: 703–13.

4- Fajardo, M., Garcia,F.J., López, S., Dieguez,P. Alfaro, P. 2012. Analgesic combined lateral and anterior cutaneous branches of the intercostal nerves ultrasound block in ambulatory breast surgery. *Cir May Amb. 17 (3): 95-104.*

Poster No: 24

An audit of the timing, administration and effectiveness of single shot Fascia Iliaca Blocks in the analgesic management of patients with hip fracture

Jonathan Fortune[1], Edward Ireland[1], Caveh Madjdpour[2]

[1]Northumbria Hospitals, Newcastle Upon Tyne, United Kingdom. [2]Northumbria Healthcare, Newcastle Upon Tyne, United Kingdom

Abstract

Introduction

NICE and the AAGBI recommend nerve blocks for pain management in hip fractures. Routinely in our hospital, all patients with hip fracture in A&E receive a landmark fascia iliaca block (FIB). However, the landmark technique efficacy is questionable (1), and a recent patient safety alert highlighted the danger of opiate administration prior to nerve blocks(2). We evaluated the timing, effectiveness and safety of the FIBs.

Methods

Retrospective review of patients admitted with hip fracture. Timing of diagnostic x-ray, analgesia administration, and FIB performance were correlated with pain scores in the first 24 hours of admission. Analgesia doses were converted to oral morphine equivalents for comparison(3).

Results

39 out of 43 patients received FIB in A&E. After diagnostic x-ray, patients waited on average 122.92±13.80 minutes for the block. Average pain scores were between 1-2 in the first 24 hours after block, with an average oral morphine administration of 4.9mg±0.9mg and 7.5mg±1.60mg in 0-12 hours and 12-24 hours after admission. Four patients received between 5-10mg IV morphine within 40 minutes of FIB. Four patients had persistent high pain scores after FIB, requiring rescue analgesia.

Discussion

FIBs in A&E are effective as analgesia for hip fracture. Most patients received FIB, but after a prolonged wait. Opioids administered during this wait could compromise patient safety. We highlighted these issues to A&E and recommended that FIB be a priority after diagnosis. After identifying ineffective blocks in this cohort, a ‘rescue block’ service is being considered.

References

References

1. Ultrasound Guided Fascia Iliaca Block: A Comparison With the Loss of Resistance Technique Regional anesthesia and pain medicine 33(6):526-31 · November 2008
2. Royal College of Emergency Medicine Safety Alert – Death After Fascia Iliaca Block https://www.rcem.ac.uk/docs/Safety%20Resources%20+%20Guidance/Feb%20FIB%20Alert.pdf – Accessed 11/2/19
3. FPMANZCA Opioid Calculator Version 1.0 For iOS

Poster No: 25

Ankle and foot surgery: are we consistently numb? Acute pain management review for foot and ankle surgery in teaching hospital

Anna Cormack, John Stewart, William Scott

Glasgow Royal Infirmary, Glasgow, United Kingdom

Abstract

Introduction:

Pain after foot and ankle surgery (FAS) can influence the postoperative outcomes and prolong inpatient stay. [1] Regional anaesthesia (RA) should be utilised in all extensive surgical procedures for foot and ankle [2]. We have reviewed pain management of patients undergoing elective FAS in large teaching hospital over six months aiming to evaluate RA provision, immediate post-operative and 24h breakthrough analgesic requirements. Our goal is that **all** patients undergoing these procedures should have access to **effective** RA.

Methods:

Retrospective review of electronic case-notes of the patients undergoing elective FAS in large teaching hospital. Ethical approval was not required (service development project).

Results:

52 patients underwent FAS in the studied period, 69% were females and 31% males. 65% of patients were taking opioid-containing or neuropathic medications prior to surgery (18% are long-acting opioids). 47 patients (90%) had RA utilised for intra-operative and post-operative pain management (chart 1). 35% of patients required IV opioids in the immediate postoperative period, more commonly when RA was performed by non-RA specialist (58% v 29% - chart 2), 36% of the patients having RA required breakthrough opioids in first 24h and 40% in no-RA group.

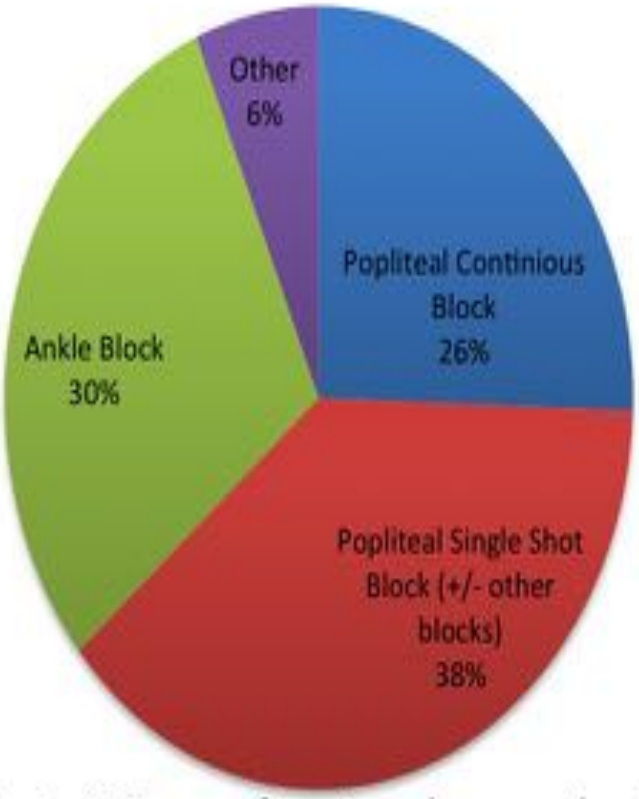


Chart 1. Type of regional anaesthesia

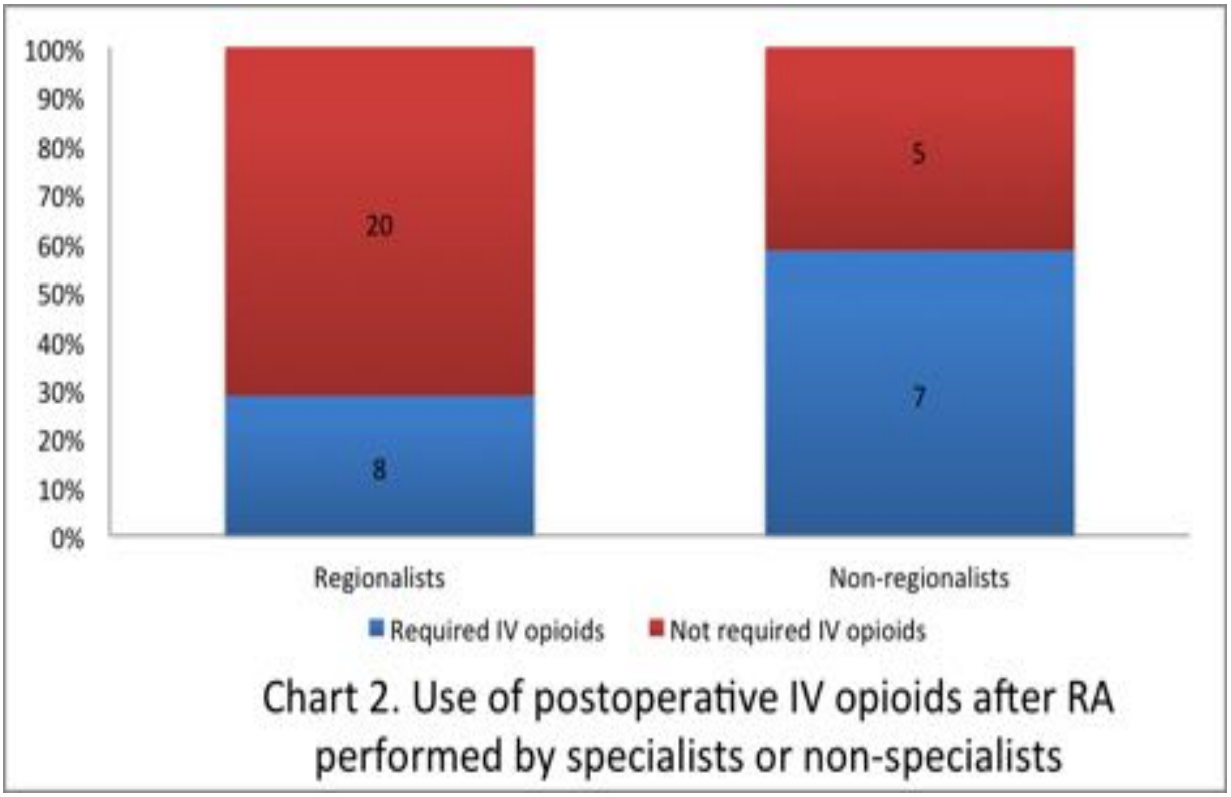


Chart 2. Use of postoperative IV opioids after RA performed by specialists or non-specialists

Discussion:

RA was utilised in 90% cases, and where it was not provided it was mainly due to patient and surgical factors. Immediate postoperative opioid requirements were more likely if RA was performed by non-specialist. 24h opioids requirements where mainly dependent on surgical procedure. We conclude that FAS lists should be always covered with RA-specialists to deliver effective service.

References

1. Wang, Jia et al.. Pain Management for Elective Foot and Ankle Surgery: A Systematic Review of Randomized Controlled Trials. *The Journal of Foot and Ankle Surgery* 2015; 54(4): 625 – 635
2. Stein B.E., Srikumaran U., Tan E.W., Freehill M.T., and Wilckens J.H.. Lower-extremity peripheral nerve blocks in the perioperative pain management of orthopaedic patients. *The Journal of bone and joint surgery. American volume* 2012; 94():e167.1-e167.13

Poster No: 26

Pre-existing chronic pain and foot and ankle surgery: are we blocking it?

John Stewart, Anna Cormack, William Scott

Glasgow Royal Infirmary, Glasgow, United Kingdom

Abstract

Introduction

Foot and ankle surgery (FAS) is heterogeneous group of the procedures where regional anaesthesia (RA) is commonly used for acute pain management[1]. Acute pain in postoperative period is independent risk factor for developing chronic pain (CP) in patients undergoing these procedures[2] so effective perioperative analgesia is paramount. Patients with CP might present unique challenges in acute pain management[3] but we could not identify if that is applicable to FAS. We conducted six months retrospective review of the perioperative pain management of patients undergoing FAS to identify issues in management of patients with pre-existing CP.

Methods

Retrospective review of electronic case-notes of the patients undergoing elective FAS in large teaching hospital. Ethical approval was not required (quality improvement project).

Results

52 patients underwent FAS in the studied period (69% females, 31% males). 15 patients (65%) were taking opioid-containing or neuropathic medications prior to surgery (18% - long-acting opioids, 27% - neuropathic medications) (chart 1). All patients identified with pre-existing CP had RA. Five patients (33%) in the CP subgroup had postoperative IV opioids, and 13 (35%) in no pre-existing CP subgroup. 24h strong opioid breakthrough use was similar in patients with CP and no CP subgroups (40% and 35% respectively). Use of long-acting opioids post-operatively was higher in CP patients (40% v 8% in no CP patients) (chart2).

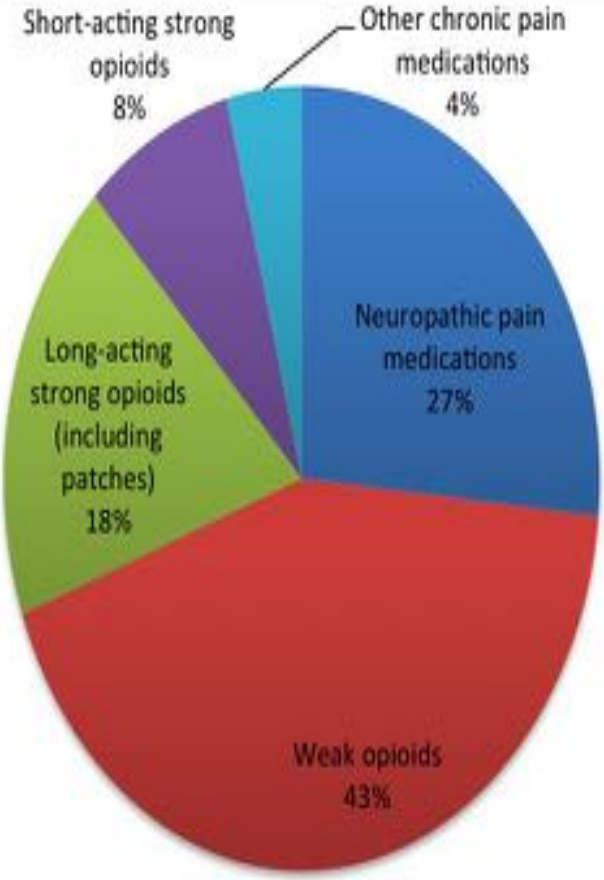


Chart 1. Pre-operative used of opioid-containing and neuroparthic medicationgs

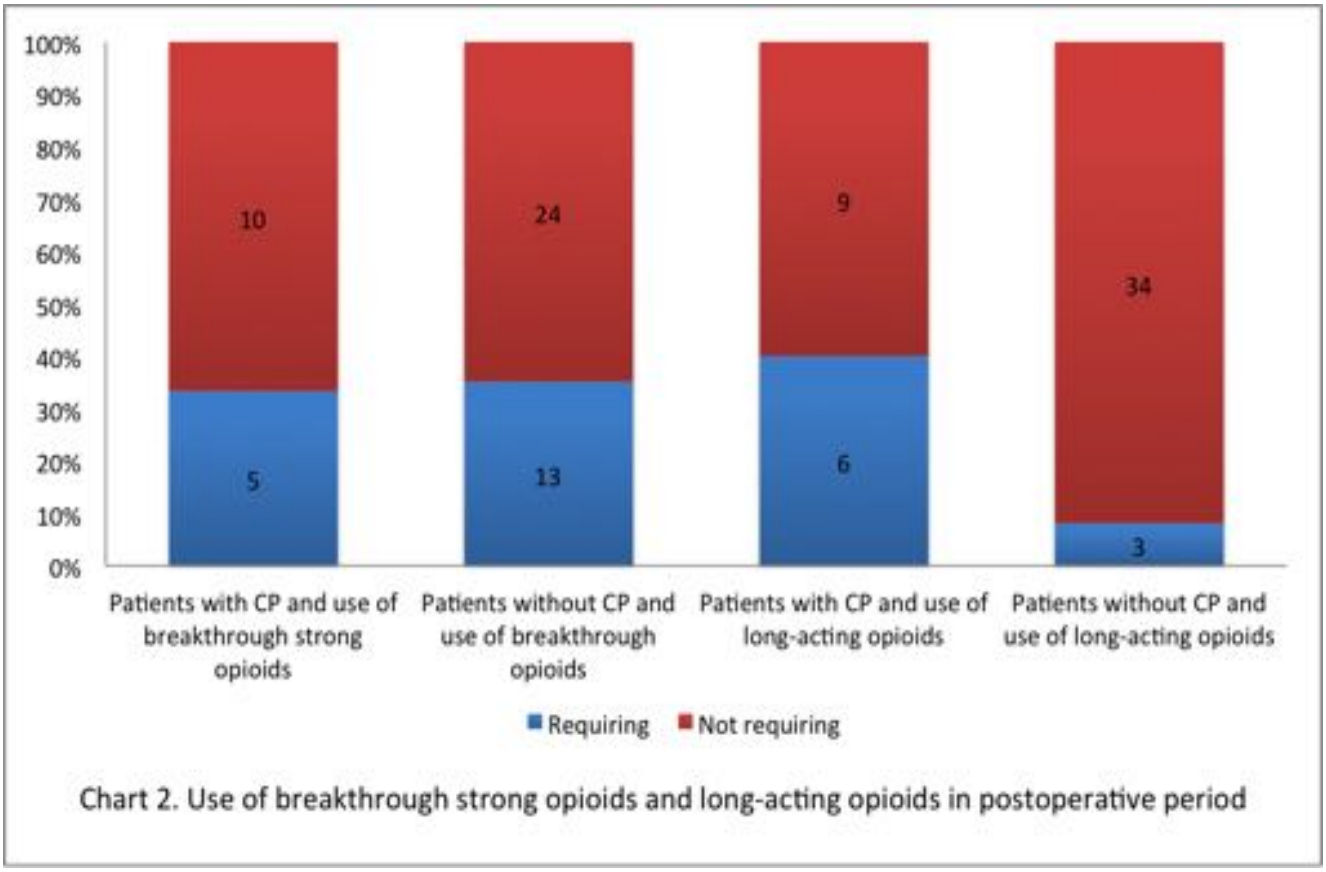


Chart 2. Use of breakthrough strong opioids and long-acting opioids in postoperative period

Discussion

Acute pain management was comparable in patients with CP to patients without. Combination of RA and continuation of pre-operative medications are key aspects of successful pain management in those patients.

References

1. Wang, Jia et al.. Pain Management for Elective Foot and Ankle Surgery: A Systematic Review of Randomized Controlled Trials. *The Journal of Foot and Ankle Surgery* 2015; 54(4): 625 – 635

2. F. Remérand, H.B. Godfroid, J. Brilhault, R. Vourc'h, J. Druon, M. Laffon, J. Fusciardi. Chronic pain 1year after foot surgery: Epidemiology and associated factors. *Orthopaedics & Traumatology: Surgery & Research* 2014; 100(7): 767-773

3. Gerbershagen, H.J., Pogatzki-Zahn, E., Aduckathil, S., Peelen, L.M., Kappen, T.H., van Wijck, A.J., Kalkman, C.J., and Meissner, W.. Procedure-specific risk factor analysis for the development of severe postoperative pain. *Anesthesiology* 2014; 120: 1237–1245

Poster No: 27

Continuous popliteal nerve block for foot and ankle surgery: is it worth the effort?

Anna Cormack, John Stewart, William Scott

Glasgow Royal Infirmary, Glasgow, United Kingdom

Abstract

Introduction:

Studies suggested superior analgesia from continuous popliteal nerve block (CPNB) technique for foot and ankle surgery (FAS) [1]. In our institution we routinely use CPNB for both day-cases and patients requiring in-patient stay. We have conducted six months retrospective review to compare analgesic efficacy and safety of the technique with single shot popliteal nerve block (SSPNB).

Methods:

Retrospective review of electronic case-notes of the patients undergoing elective FAS in large teaching hospital. Ethical approval was not required (service evaluation project).

Results:

52 patients were included in the studied period. 12 patients (22%) had CPNB and 18 patients (35%) had SSPNB (+/- supplemental block). Only 3 patients (25%) required IV opioids in the immediate postoperative period in the CPNB subgroup, while in the SSPNB subgroup 7 patients (39%) required them. 24h breakthrough opioid requirements were higher in SSPNB subgroup compared to CPNB (50% v 33% respectively) (chart1). Mean stay in CPNB subgroup was 1.66 days (range: 1-4), and 1.35 days in SSPNB subgroup (range 0-4). Type of the procedure influenced RA technique: in most extensive surgical procedures CPNB was used (chart2). There were no safety risk episodes with continuous local anaesthetic infusion during studied period.

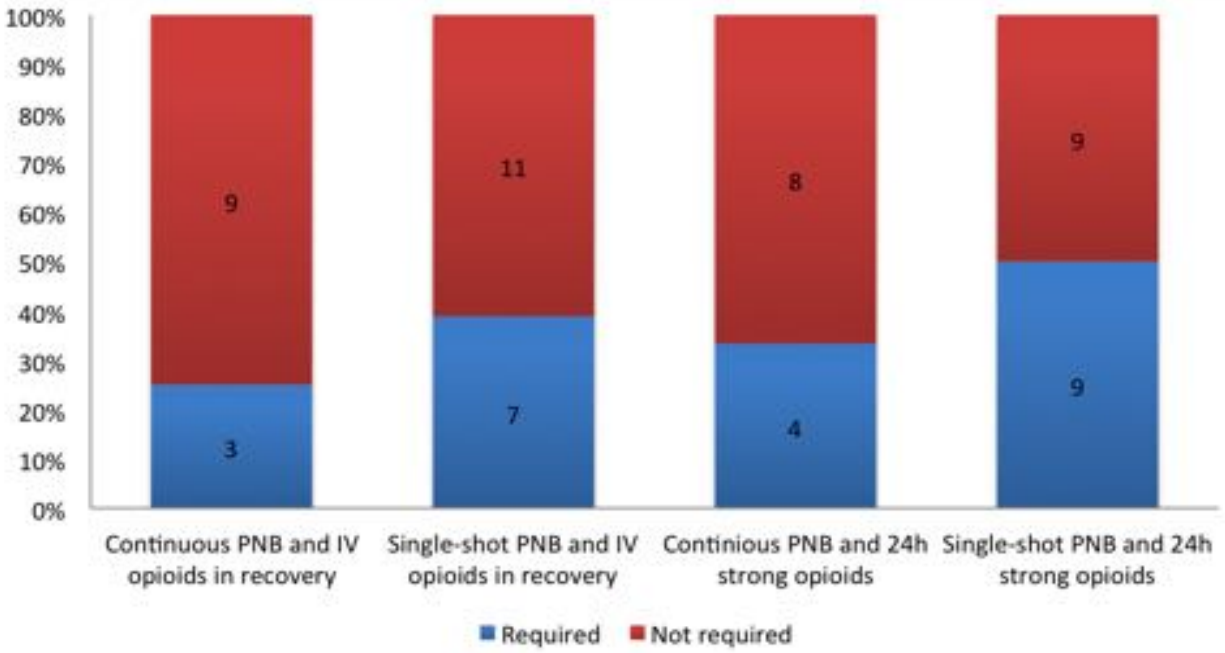


Chart 1. Comparison of IV opioids requirement in immediate post-operative period and breakthrough strong opioids in first 24h after surgery

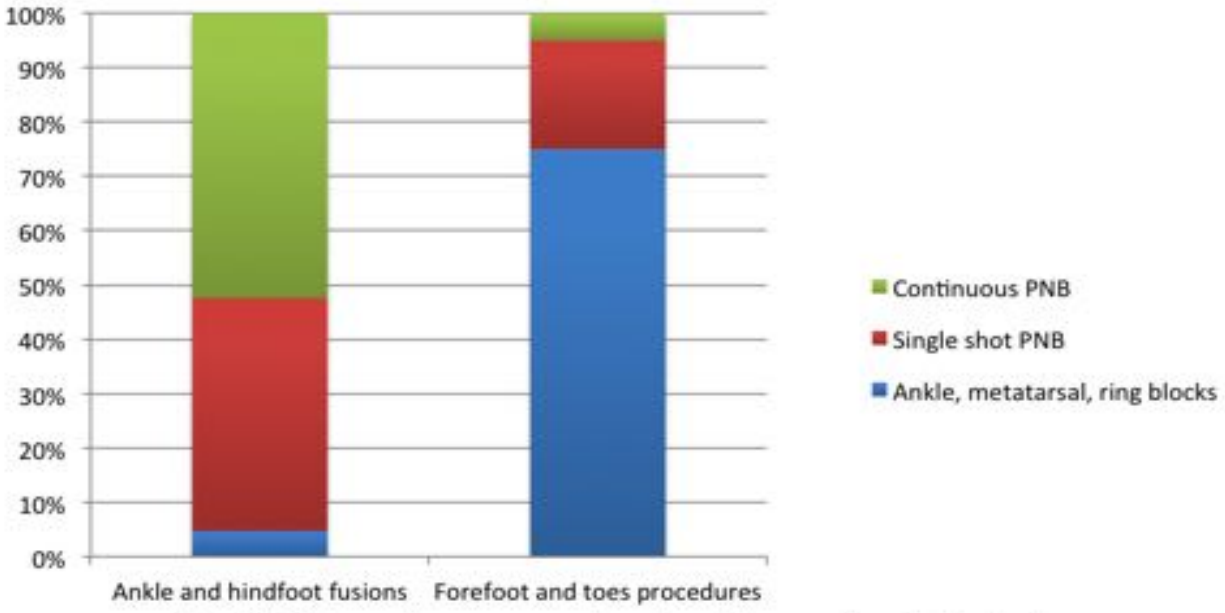


Chart 2. Type of surgery and regional anaesthesia technique

Discussion:

CPNB is useful technique for effective and safe postoperative pain management in FAS. It showed lower IV opioid requirements in immediate post-operative period as well as reduced number of patients requiring breakthrough strong opioids in first 24h after surgery even in view that CPNB were more often used in extensive procedures.

References

1. Ilfeld BM, Morey TE, Wang RD, Enneking FK. Continuous popliteal sciatic nerve block for postoperative pain control at home: a randomized, double-blinded, placebo-controlled study. *Anesthesiology* 2002; 97(4): 959-65

Poster No: 28

The forgotten stakeholder in a regional anaesthesia service

Matthew Harry Thompson, Nidhi Gautam, Toby Ashken, Su Cheen Ng

University College Hospital, London, United Kingdom

Abstract

Introduction

The introduction of a dedicated regional anaesthesia (RA) service is intended to improve patient experience, patient outcomes, turnover of theatre list, and cost. Many of these predicted impacts have been studied and assessed in the literature[1-3]. Our institution introduced a RA service via a block room model of care. Our theatre recovery staff are heavily affected by the increase in RA patients and this has not previously been looked at. Recovery staff can also provide important insight into the patient's immediate post-operative period. We sought the opinions of our recovery staff to assess the impact on their workload and their patient's care.

Methods

We designed a questionnaire to ascertain the views of our recovery nurses during a one-week period. It was manually distributed on paper format and anonymously collected.

Results

Fig 1 – Table of results

Question	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Blocked patients require less pain relief	3%	0%	23%	37%	37%
Blocked patients have less PONV	3%	10%	23%	30%	33%
Blocked patients quickly discharged from recovery	0%	7%	7%	50%	37%
Blocked patients are discharged home faster	0%	7%	20%	40%	33%
Blocked patients are easier to care for in recovery	3%	7%	0%	60%	30%
Have had enough teaching to safely take care	10%	17%	7%	43%	23%
Recommend a nerve block to friends/family	0%	0%	17%	53%	30%
Like working in theatres with dedicated block room & service	0%	3%	3%	67%	27%
Improvement in post op recovery after block service initiated	0%	0%	13%	67%	20%

#

Discussion

Our results showed an overwhelmingly positive attitude of recovery staff towards our RA service. They have seen a beneficial impact on both patient care and their own workload. An impressive 83% of recovery nurses would recommend a block to their family or friends. Two important points arose from our study. Firstly, we identified a subset of nurses who felt they would benefit from additional training to better care for post-operative RA patients. Secondly, the nurses would like to have access to written information to provide patients. This project has highlighted the benefits of staying engaged with this often-forgotten group of professionals to further improve the safety and quality of our service.

References

References

1. Chin A, Heywood L, Lu P, Pelecanos AM, Barrington MJ. The effectiveness of regional anaesthesia before and after

the introduction of a dedicated regional anaesthesia service incorporating a block room. Anaesth Intensive Care. 2017;45(6):714-9

2. Brown MJ, Subramanian A, Curry TB, Kor DJ, Moran SL, Rohleder TR. Improving operating room productivity via parallel anesthesia processing. International Journal of Health Care Quality Assurance. 2014;27(8):697-706

3. Armstrong KP, Cherry RA. Brachial plexus anesthesia compared to general anesthesia when a block room is available. Can J Anaesth. 2004;51(1):41-4.

Poster No: 29

Evaluating upper limb block performance in a regional plastic surgery centre

Alon Kramer

Broomfield Hospital, Chelmsford, United Kingdom

Abstract

Introduction

Broomfield Hospital, in South-East England, is a regional Plastics centre covering a population of 3.2 million. Annually, approximately 1300 upper limb blocks are performed. A baseline service evaluation was carried out with a view to implementing quality improvement.

Methods

Between 15th February and 15th March 2019, adult patients having awake elective or urgent upper limb plastic surgery using a brachial plexus block were included. The clinical notes were reviewed and 2 to 3 days following the procedure a telephone call was made to the patient.

Results

42 patients were included. 74% were axillary brachial plexus blocks, the remaining supraclavicular. Local anaesthetic mixtures were most commonly 1 or 2% lidocaine with 0.25% or 0.5% bupivacaine and adrenaline, from 20 to 45 mls total volume. Sedation was used in 69% of cases predominantly midazolam.

Consent[1] and documentation[2] are important issues. This was sparse, for example, 12% of cases did not specify the approach to the brachial plexus. 90% of patients reported they did not receive written information, though it was available[3].

There were no conversions to general anaesthesia, 4 patients experienced mild discomfort intra-operatively and 3 required additional local anaesthesia. Mean self-reported analgesia time was 11.5 hours, ranging 2 to 30 hours. Mean satisfaction score was 9.0 out of 10.

Discussion

Satisfaction and success rates are high. Use of additives into block mixtures could extend analgesia time. Documentation of consent and conduct of block requires improvement. Using a pre-printed sticker and ensuring provision of written information is likely to improve care.

References

References

1.Yentis et al. AAGBI: Consent for anaesthesia 2017: Association of Anaesthetists of Great Britain and Ireland. *Anaesthesia.* 2017 Jan;72(1):93-105. doi: 10.1111/anae.13762.
2. https://www.ra-uk.org/index.php/guidelines-standards/5-guidelines/detail/255-patient-consent-for-peripheral-nerve-blocks
3.http://www.meht.nhs.uk/EasysiteWeb/getresource.axd?AssetID=2286&type=full&servicetype=Attachment

Poster No: 30

Improving Management of Perioperative Local Anaesthetic Systemic Toxicity: A Survey & Improvement Project

Michael Li[1], Luke Martin[1], Sanjoy Saha[2]

[1]UCL Medical School, London, United Kingdom. [2]Royal Free Hospital, London, United Kingdom

Abstract

Introduction: Local anaesthetics (LA) are widely used perioperatively for regional anaesthesia, wound infiltration, and as an intravenous infusion. Local Anaesthetic Systemic Toxicity (LAST) is a rare but potentially life-threatening complication of LA use with a specific management guideline set out by the AAGBI.[1] This project aimed to improve perioperative management of LAST using a survey to identify key areas to implement change.

Methods: An anonymous 7-point questionnaire was designed which asked the maximum dosage of LAs used in the trust, dosage of intralipid, and location of intralipid, cardiac arrest trolleys and LAST management guidelines in our 3 separate theatre sites. These were distributed to theatre staff and data collected over 3 days.

Results: There were 61 respondents (31 anaesthetists, 5 surgeons, 25 anaesthetic nurses). Approximately 80% of anaesthetists answered the question of maximum dose for lidocaine, bupivacaine and levobupivacaine (without adrenaline) as 3mg/kg, 2mg/kg and 2mg/kg respectively. The mode (range) maximum total dose of LA anaesthetists would use for a 125kg patient for lidocaine was 400mg (150-600mg), bupivacaine 250mg (75-250mg) and levobupivacaine 250mg (75-250mg).

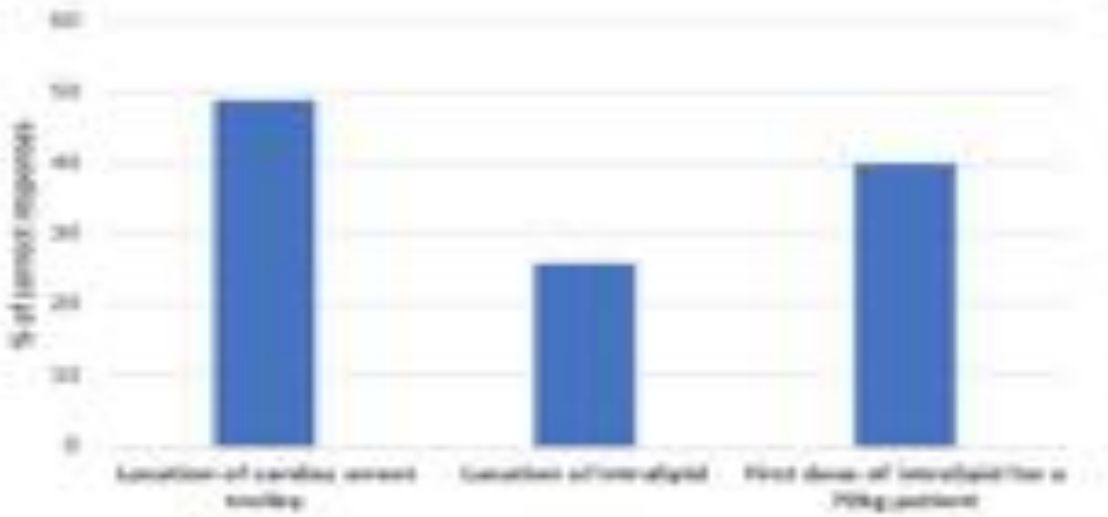


Fig. 1 Percentage of respondents who correctly identified the location of cardiac arrest trolleys, intralipid, and 1st dose of intralipid for a 70kg patient across all sites.

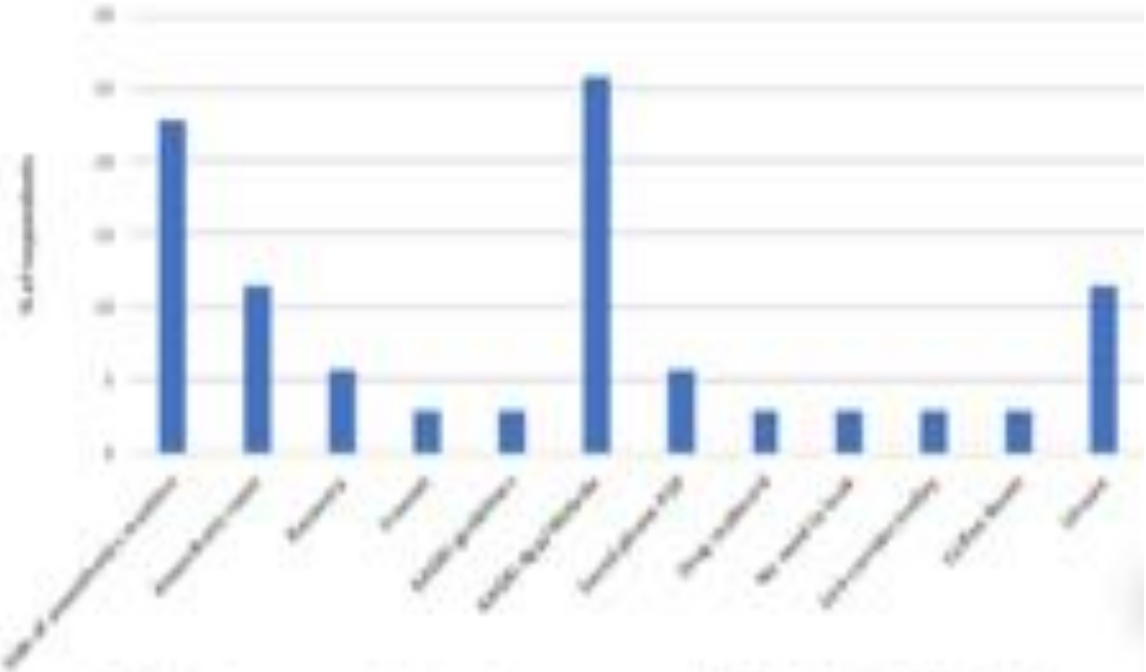


Fig. 2 Locations anaesthetists and surgeons would first look for LAST guidelines (no designated place to be kept in each theatre).

Discussions: This project demonstrated variable knowledge in local anaesthetic dosing; location of intralipid, the cardiac arrest trolley and a lack of LAST (and other emergency) guidelines in each theatre. The results were presented at our audit meeting; subsequently the AAGBI emergency quick reference handbook has been placed in every theatre.[2] We plan to conduct an in-situ LAST simulation and repeat the survey to identify areas for further improvements.

References

1. Association of Anaesthetists Safety Guideline Management of Severe Local Anaesthetic Toxicity. 2010. Available at: https://www.aagbi.org/sites/default/files/la_toxicity_2010_0.pdf. [Accessed 29/03/2019].
2. Association of Anaesthetists Quick Reference Handbook. 2019. Available at: https://www.aagbi.org/safety/qrh. [Accessed 29/03/2019].

Poster No: 31

Sphenopalatine Ganglion Block as an Alternative Modality for Management of Post-Dural Puncture Headache: a Case Series

Christine Greene, Louise Moran, Eric Korba

Letterkenny University Hospital, Letterkenny, Co. Donegal, Ireland

Abstract

Introduction:

Post-dural puncture headache (PDPH) is a well-recognised complication of neuraxial anaesthesia. To date, conservative management and use of an Epidural Blood Patch (EBP) has been the mainstay of treatment.[1] Sphenopalatine Ganglion Block (SPGB) is a minimally invasive technique which can be carried out at the bedside and has been associated with effective analgesia & better safety profile versus conventional EBP.[2]

Cases:

Five patients (4 female, 16-40 yrs) with PDPH were included. Three patients had spinal anaesthesia, one epidural and one had a lumbar puncture. Symptom onset ranged from day 1-4 post-dural puncture. All patients received conservative treatment (IV fluids, regular analgesia, caffeine) and were offered either SPGB or EBP. SPGB was performed day 2-6 post-dural puncture. Either 3-7.5mL 0.5% L-Bupivacaine (in 4/5) or 4% Lignocaine (1/5) was administered. Four of five patients achieved immediate symptomatic relief post-SPGB, assessed using the visual analogue scale. Two of five achieved symptomatic relief after a single SPGB & were discharged. Two received a repeat SPGB for ongoing symptoms. Finally, two were then given an EBP for ongoing symptoms post-SPGB. SPGB was well tolerated by all five and no adverse effects of SPGB were reported.

Discussion:

The current case series are consistent with the few reports in the literature on SPGB, demonstrating it to be an effective and safe treatment option in the management of PDPH[3]. Given the favourable safety profile, efficacy and minimally invasive nature of SPGB, further research assessing the role of SPGB as an initial treatment modality in PDPH is warranted.

References

1. Katz D, Beilin Y. Review of the Alternatives to Epidural Blood Patch for Treatment of Postdural Puncture Headache in the Parturient. Anaesth Analg. 2017; 124(4):1219-1228.

2. Nair AS, Rayani BK. Sphenopalatine Ganglion Block for Relieving Postdural Puncture Headache: Technique and Mechanism of Action of Block with a Narrative Review of Efficacy. Korean J Pain. 2017; 30:93-7.

3. Kent S, Mehaffey G. Transnasal Sphenopalatine Ganglion Block for the Treatment of Postdural Puncture Headache in the ED. Am J Emerg Med. 2015; 33(11):1714.e1-2

Poster No: 32

Consenting and documentation for regional anaesthesia

Yolande Squire[1], James Lloyd[1], Muthuraja Marimuthu[2], David Burckett- St.Laurent [1]

[1]Royal Gwent Hospital, Newport, United Kingdom. [2]Royal Gwent Hospital, Newport , United Kingdom

Abstract

Anaesthetists are routinely performing peripheral nerve blocks either in combination with a general anaesthetic or as a sole technique. Recent studies have highlighted a need for more formal framework and documentation of these procedures, from the consent discussions to the handover and recovery of these patients[1].

There is national guidance on consent for anaesthesia, which includes obtaining consent prior to the day of surgery, the use of visual and written aids about the procedure, a clear explanation of the risks, benefits and alternatives, and an opportunity to ask any questions[2,4]. This is essential to enable patients to make autonomous and informed decisions about their care, however recall and understanding of this process amongst patients has been shown to be poor[1].

Thorough recording and handover of the regional anaesthetic technique used is another essential part of safe practice. It is also highlighted in NatSSIPs[3]. With the increasing use of "block room" models and high turnover lists this is even more important to avoid adverse events.

To improve these issues locally we have developed a peri-operative document for patients receiving regional anaesthesia. The aim of this is to facilitate a more formalised consent process and to streamline the patients care from the pre operative work up through to a safe and more rigorous hand over to recovery. We hope that this will improve our patient care and enable a more consistent and safe approach to the ever growing field of regional anaesthesia.

Regional Anaesthesia Record

Aneurin Bevan University Health Board

Patient Addressograph

Date ___/___/_____ Time ___/___

Surgeon:

Surgery:

Anaesthetist:

Block:

Intention ☐ Anaesthesia ☐ Analgesia

Referral ☐ Elective Surgery ☐ Emergency Surgery ☐ Acute Pain

Pre-Operative Assessment

ASA 1 2 3 4

Self Airway Y / N

Sore Throat Y / N

Prev GA Y / N

Problems Y / N

PONV Y / N

Fasted Y / N

Food:

Water:

Dispensation Y / N

CBG

Hb

WCC

Plat

INR

Other Issues Y / N

Na

K

Urea

Creat

eGFR

Ht Kg BMI

BP Sats %

ECG

Medication

Anticoagulation Y / N

Last dose ___/___/_____ Time ___/___

Allergies

Patient risks and preparation

☐ Block failure and secondary pain ☐ Prolonged block ☐ Bleeding ☐ Bruising

☐ Infection ☐ Allergic reaction ☐ Pain at injection site

☐ Permanent nerve damage ☐ Temporary nerve damage ☐ Damage to surrounding structures

Other:

☐ **Procedure explained** including risks, benefits and alternatives such as general anaesthesia and not proceeding with surgery

☐ Leaflet read or explained ☐ Regional video watched ☐ Previous regional ☐ Screened for research

☐ Conscious sedation explained, including possibility of recall

☐ Advice given to safeguard anaesthetised area and to take oral pain relief before anaesthesia wears off

Anaesthetist's name Sign Date ___/___/___

Consent

I understand:

1. The information given about the regional anaesthetic, as described on this form
2. That a particular person can't be guaranteed to perform the procedure, but that the person will have appropriate experience
3. That I have had the opportunity to discuss the details of the anaesthetic with an anaesthetist
4. That any procedure in addition to those described on this form will only be carried out if it is necessary to save my life or prevent serious harm to my health
5. That anonymous data will be collected about my anaesthetic for use in service improvement

I agree and consent to the anaesthetic as described on this form

Patient's name (PRINT) _____

Patient's signature Date ___/___/___

Block 1

Type Laterality

☐ Skin Prep with Chlorhexidine 0.5%

☐ Skin Infiltration

Needle type _____ Gauge ____G

☐ Ultrasound ☐ Landmark ☐ Nerve Stim

☐ In plane ☐ Out of plane

☐ Absence of symptoms on injection

☐ Resistance ☐ Paraesthesia ☐ Pain

Performed by:

Block 2

Type Laterality

☐ Skin Prep with Chlorhexidine 0.5%

☐ Skin Infiltration

Needle type _____ Gauge ____G

☐ Ultrasound ☐ Landmark ☐ Nerve Stim

☐ In plane ☐ Out of plane

☐ Absence of symptoms on injection

☐ Resistance ☐ Paraesthesia ☐ Pain

Performed by:

Block 3

Type Laterality

☐ Skin Prep with Chlorhexidine 0.5%

☐ Skin Infiltration

Needle type _____ Gauge ____G

☐ Ultrasound ☐ Landmark ☐ Nerve Stim

☐ In plane ☐ Out of plane

☐ Absence of symptoms on injection

☐ Resistance ☐ Paraesthesia ☐ Pain

Performed by:

Block 4

Type Laterality

☐ Skin Prep with Chlorhexidine 0.5%

☐ Skin Infiltration

Needle type _____ Gauge ____G

☐ Ultrasound ☐ Landmark ☐ Nerve Stim

☐ In plane ☐ Out of plane

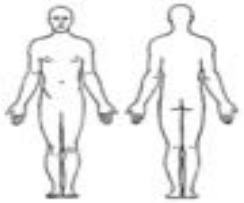
☐ Absence of symptoms on injection

☐ Resistance ☐ Paraesthesia ☐ Pain

Performed by:

Additional Information

Block Assessment

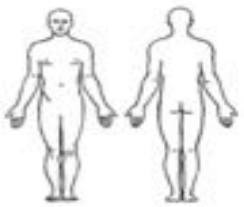


Block tested and adequate for surgery ☐

Top-up required ☐

Unable to produce anaesthetic block ☐

Pre-existing neurology



Further details, including any motor weakness:

STOP BEFORE YOU BLOCK ☐ Team Brief ☐ Surgical Site Mark ☐ Block Site Mark ☐ Equipment check ☐ IV Access ☐ Mandatory Monitoring

Peri-operative observations

IVI											
Drugs											
180											
170											
160											
150											
140											
130											
120											
110											
100											
90											
80											
70											
60											
50											
40											
30											
20											
Time											
SpO2											
FiO2											
CO2											
ET Agent											
RR											
Temp											
Tourniquet											

Intra Operative course

☐ Patient comfortable throughout procedure

☐ Further analgesia offered: Accepted ☐ Declined ☐

☐ G.A. offered: Accepted ☐ Airway: Grade: Circuit: Agents:

Declined ☐

Further Information

Recovery and Ward Handover

Airway

Time removed: ___:___

☐ Unsupported ☐ Jaw Thrust ☐ Guedel

☐ Waters Circuit ☐ Hudson Mask ☐ Nasal

☐ Supraglottic ☐ ET Tube

180											
170											
160											
150											
140											
130											
120											
110											
100											
90											
80											
70											
60											
50											
40											
30											
20											
Time											
SpO2											
FiO2											
CO2											
RR											
Temp											
Nausea											
Vomiting											
CBG											
Urine Vol											
Drain 1											
Drain 2											
CBG											
Limb:											
Colour											
Sensory											
Motor											
Bromage											

Conscious Level

☐ Awake ☐ Sedated and responds to voice

☐ Unresponsive ☐ Sedated and responds to pain

Time awake and oriented: ___:___

IV Access Site: Size:

Discharge

VIP Score 0 1 2 3 4 5

Pain Score 0 1 2 3

Discharge Score ___

NEWS Score ___

Wound site information:

Ward Handover

☐ **Patient feedback completed in database prior to discharge**

VTE Prophylaxis: ☐ Yes ☐ No ☐ NA

TTO/Fit note: ☐ Yes ☐ No ☐ NA

Fluid Plan: ☐ Oral ☐ IV

Medication Plan:

Post Op plan:

Special Instructions / Concerns:

Ward Nurse: Signature:

Recovered by

Signature: _____

Recovery Practitioner: _____

References

1. Zarnegar R et al. Patient perceptions and recall of consent for regional anaesthesia compared with consent for surgery. J R Soc Med. 2015 Nov;108(11):451-6

2. Association of Anaesthetists of Great Britain and Ireland. AAGBI: Consent for anaesthesia 2017. Anaesthesia 2017; 72: 93-105.

3. NHS England patient Safety Domain [Internet]. National safety standards for invasive procedures. London: NHS England, 2015.

4. https://www.ra-uk.org/index.php/guidelines-standards/5-guidelines/detail/255-patient-consent-for-peripheral-nerve-blocks

Poster No: 33

Local Anaesthetic Systemic Toxicity Grab Boxes

Will Watson, James Small, Sonya McKinlay

Glasgow Royal Infirmary, Glasgow, United Kingdom

Abstract

Local anaesthetic systemic toxicity (LAST) is a rare, but serious complication of administrating local anaesthetic agents. The rate of toxicity is 1.2-11 per 10000 anaesthetics, for epidural and 2.5-9.8 per 10000 for peripheral nerve blocks.[1]The AAGBI have published guidelines on the identification and management of LAST, which involve the administration of lipid emulsion therapy in weight based doses.[2]

We carried out a survey of 25 Consultant and 7 trainee anaesthetists who were asked the location of the nearest Lipid emulsion therapy at two sites in GRI theatres.

The correct location was identified by 7(22%) anaesthetists at the first site and 5(16%) anaesthetists at the second site.

We have created LAST Grab Boxes. These are clearly labeled and contain the AAGBI guideline, a weight based dosage sheet for initial dose, double dose and maximum allowed volume of lipid emulsion therapy, along with all of the required equipment. They have been placed in a number of areas including Theatre recovery, Labour Ward and Intensive care.

Also, we have created a 'Learnpro' module which incorporates knowledge of the location of LAST Grab Boxes along with use of the AAGBI guideline for treatment. We feel this should be compulsory for staff working in areas where this treatment may be required and could be used to measure staff engagement and knowledge improvement.

Once established, we would wish to repeat a staff survey to show an improvement in knowledge of the location of Lipid Emulsion Therapy and treatment of LAST.

References

1. Local anaesthetic systemic toxicity Christie LE, Picard J, Weinberg GL. BJA Education, 15 (3): 136–142 (2015)
2. AAGBI – Management of Severe local Anaesthetic Toxicity. Available from https://www.aagbi.org/sites/default/files/la_toxicity_2010_0.pdf

Poster No: 34

Survey of practice: What is blocking us stopping?

Sean Speers, Alison Schulte

Royal Sussex County Hospital, Brighton, United Kingdom

Abstract

Introduction

Following the recommendations made by the Healthcare safety investigation branch analysis of wrong site nerve blocks in 2018 (1), we introduced a simplified Stop Before You Block (SBYB) process :

1.**Both** the anaesthetist and the ODP must be involved.

2.The side is confirmed by **both** people with the surgical marking and consent form.

3.The SBYB moment takes place **immediately** before needle insertion.

Methods

We designed a questionnaire with 8 statements to assess effectiveness and emailed the SurveyMonkey to 173 anaesthetists and ODPs.

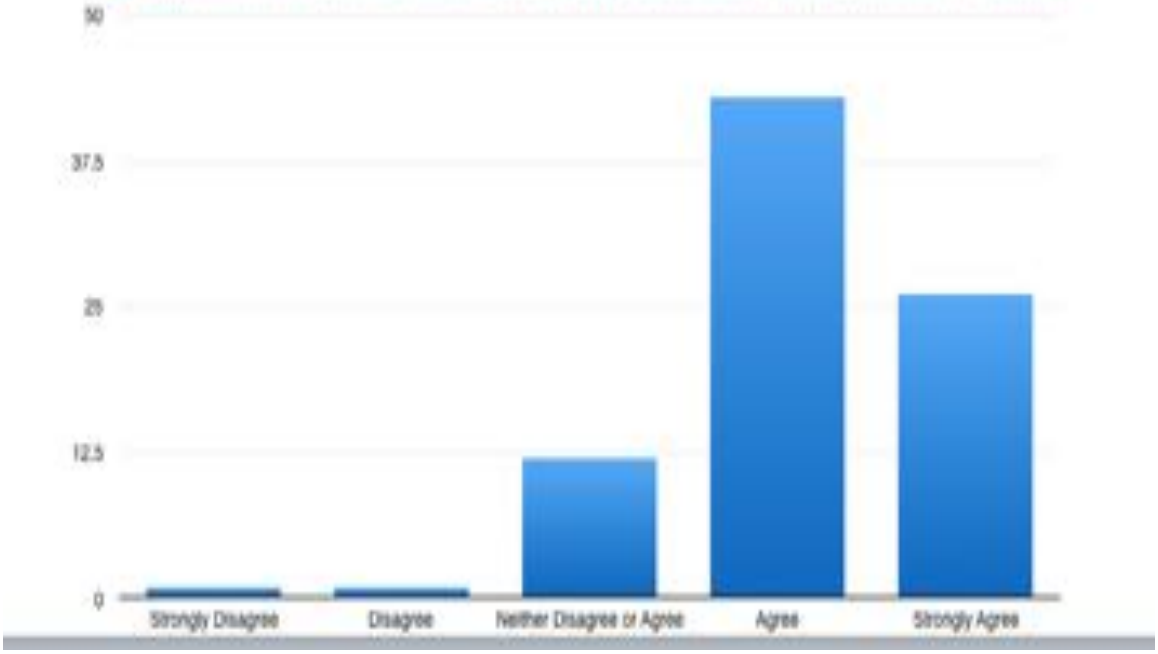
Results

There was a 49% response rate (n=84). 86% said they agreed they were fully aware of the new changes to procedure. 34% said they agreed the changes had removed variation amongst practitioners. 15 % said they had witnessed SBYB omissions.

Table 1: Survey questions and responses

	Strongly Disagree	Disagree	Neither Disagree or Agree	Agree	Strongly Agree	Weighted Average	Total Respondents
I am fully aware of the details of the new SBYB process at BSUH	4	4	4	42	30	4.07	84
The new process is clear to understand and has been easy to introduce into my practice	0	1	14	42	26	4.12	83
The new process has removed variation in SBYB practice amongst different practitioners	1	7	47	22	6	3.3	83
The new process has significantly increased the length of time required to perform a block	19	42	17	2	1	2.06	81
Despite the new process, I have witnessed SBYB refusals or omissions	20	33	18	11	1	2.28	83
I feel the two-person confirmation technique is a useful additional safety layer to prevent wrong site blocks	1	1	12	43	26	4.11	83
I would like to see additional safety features such as extra markings, special tape or similar	27	28	14	12	2	2.20	83
If you are an OOP, I feel empowered to withhold assistance if the SBYB moment is not performed	0	1	1	7	9	4.33	18

Graph 1 : "I feel the two-person confirmation technique is a useful additional safety layer to prevent wrong site blocks"



Discussion

We hoped that by simplifying, standardising and publicising the process we could improve the recall of the steps, empower all team members and reduce the variation of practice within the department. Despite results indicating good awareness of our new method and 83% of respondents agreeing or strongly agreeing that a two person technique was useful, we still found that 15% of respondents (n=12) reported omissions or refusals to perform SBYB. The majority (n=47) of respondents also felt that variation in practice had not changed.

Although we achieved good agreement and awareness over 4 months, it will take longer to internalise the practice by all involved, some of whom may only be occasional practitioners. We feel a consistent simplified, standardised and publicised message is the key.

References

1. (1) Healthcare Safety Investigation Branch. Administering a wrong site nerve block. 2018. https://www.hsib.org.uk/investigations-cases/administering-wrong-site-nerve-block (Accessed 30/03/2019)

Poster No: 35

Training in Regional Anaesthesia – could we do better? *A survey of ST7 trainees and new consultants in Mersey.*

Sharon Acheson

Arrowe Park Hospital, Wirral, United Kingdom

Abstract

Introduction

The Royal College of Anaesthetists higher level training curriculum states that trainees should have an 'ability to perform both lower and upper limb plexus/regional blocks with distant supervision' (1). Too often a nerve block is performed unexpectantly and infrequently preventing consolidation of learning. The experience and confidence of supervising consultants is variable and surgeons are sometimes reluctant to allow nerve blocks reducing opportunities for learning.

Methods

I designed a survey of eight questions assessing confidence in performing a range of nerve blocks independently, factors that give confidence and barriers to regional anaesthesia being offered. The survey was sent to ST7 anaesthetic trainees and first year consultant anaesthetists in Mersey.

Results

Confidence in practice of regional anaesthesia was variable. Lack of confidence featured highly in barriers to offering regional anaesthesia. A number of respondents did not feel that their training had prepared them well for being able to perform regional anaesthesia as a consultant. Several respondents felt that a dedicated higher block of regional anaesthesia training would improve ability and confidence in regional anaesthesia.

Discussion

The current way in which training in regional anaesthesia is provided is inadequate in equipping future consultants to perform regional anaesthesia as part of their clinical practice. Proposed changes to training include a dedicated higher block of regional anaesthesia training to provide opportunities to consolidate skills.

References

1. Royal College of Anaesthetists. *CCT in Anaesthetics - Higher Level Training (Annex D).2nd ed.*2010. Available from https://www.rcoa.ac.uk/system/files/TRG-CCT-ANNEXD.pdf [Accessed 31st March 2019]

Poster No: 36

Severe emergence delirium following bilateral lower limb surgery under combined general and regional anaesthesia.

Gareth Gamble, Peter Merjavy

Craigavon Area Hospital, Craigavon, United Kingdom

Abstract

Introduction

Emergence delirium is a poorly understood, heterogenous condition affecting 0.25-4.7% of general anaesthetics (1,2). We report a case of severe emergence delirium following surgery under combined general and regional anaesthesia. The variability in terminology and diagnosis will be examined, along with the risk factors for emergence delirium and the role of regional anaesthesia.

Case

A 64-year-old gentleman was admitted following a fall from height, suffering bilateral lower limb fractures requiring operative repair. Anaesthesia was induced with propofol and maintained with sevoflurane and remifentanil infusion. At the end of the 3hr 40 minute procedure, bilateral ultrasound-guided adductor canal and popliteal blocks were performed. 30 minutes post-procedure, the patient became acutely agitated. He failed to respond to verbal de-escalation and required pharmacotherapy and presence of security to physical restrain him. Emergence delirium settled after three hours and he was monitored in HDU overnight.

Discussion

Delirium is defined as an acute or fluctuating course of mental status change, combined with inattention, and either an altered level of consciousness or disorganized thinking. Emergence delirium is a well-recognised but poorly defined syndrome occurring shortly after emergence from anaesthesia. There is a complex interplay between anaesthesia and surgery and the outcomes of emergence delirium, post-operative delirium and post-operative cognitive dysfunction. Identified risk factors for emergence delirium, complications resulting from emergence delirium and the role of regional anaesthesia will be discussed. The potential of local anaesthetic systemic toxicity as a cause of acute postoperative confusion following recent bilateral blocks will also be highlighted.

References

1) Fields et al. Agitation in adults in the post-anaesthesia care unit after general anaesthesia. Br J Anaesth. 2018;121(5):1052-1058.

2) Lepouse C et al. Emergence delirium in adults in the post-anaesthesia care unit. Br J Anaesth. 2006;96(6):747-53.

Poster No: 37

Audit of Stop before you Block (SBYB) practice: Improving patient safety

Dorita Noronha, Specialty Registrar in Anaesthesia, Prashant Kakodkar, Consultant Anaesthetist

Northampton General Hospital , Northampton, United Kingdom

Abstract

Introduction:

'Stop before you Block' (SBYB) is a national Patient safety campaign initiated by Safe Anaesthesia Liaison Group & Regional Anaesthesia UK in 2010. It has been instrumental in preventing wrong site blocks classed as 'Never event' by NHS England (2015).

We assessed compliance with SBYB process in Trauma & Orthopaedics patients and its documentation in WHO Surgical Safety Checklist (SSC).

Methods:

25 blocks in 2 weeks (March 2019)

WHO checklists reviewed retrospectively in recovery

1.Sign in section led by anaesthetist or surgeon with a dedicated tick box for 'Correct side & site marked?'

2.'SBYB *immediately before needle insertion'* - Dedicated Stop moment section led by ODP

-Visualise surgical arrow

-Confirm side with patient (patient awake)

-Double check consent form (patient asleep)

-Local anaesthetic drug check

Results:

Correct side & site marked 100%

SBYB moment 92%

Discussion:

Our preventative measures already in place since 2017 are:

1.SBYB posters in anaesthetic rooms

2.Optional use of a visual SBYB prompt card covering ultrasound screen

3.Standardised SBYB section in WHO checklist

4.For upper limb blocks exposing patient's arm out of gown at Sign in as an extra definitive step to reinforce the process with the patient & team.

Follow up of 2 cases revealed human factors (distraction, communication, new staff) as likely causes.

We recommend anaesthetist to verbally state to ODP that a 'SBYB check is required' prior to completion of Sign in, encouraging colleagues to utilise visual prompt for inadvertent omission of Stop moment, increasing awareness/ education amongst new staff and emphasising on documentation in WHO checklist and anaesthetic record.

References

¸1) Safe Anaesthesia Liaison Group. Wrong Site Blocks During Surgery. London: Royal College of Anaesthetists; 2010
https://www.rcoa.ac.uk/document-store/wrong-site-blocks-during-surgery

2) French J, Bedforth N, Townsley P. NUH Stop Before You Block. London: Safe Anaesthesia Liaison Group and Regional Anaesthesia UK; 2010
https://ra-uk.org/index.php/stop-before-you-block

3) NHS England Patient Safety Domain. Never Events List 2015/16 Leeds: NHS England; 2015
https://www.england.nhs.uk/wp- content/uploads/201

4) National Patient Safety Agency. Never Events; Framework: Update for 2010-11, March 2010

5) National Patient Safety Agency. WHO Surgical Safety Checklist. Jan 2009.
https://www.nrls.npsa.nhs.uk/resources/?entryid45=59860

6) National Patient Safety Agency and Royal College of Surgeons of England. Patient briefing - correct site surgery. 2005.

Poster No: 39

Enhancing Enhanced Recovery: Implementation of Adductor Canal Blocks in Patients undergoing Total Knee Arthroplasty

AM Murphy, R Digney, R Barr

Altnagelvin Area Hospital, Altnagelvin, United Kingdom

Abstract

Introduction

Facilitation of early mobilisation and discharge are key goals of Enhanced Recovery Programmes (ERP) for patients having primary total knee replacements (TKR).[1] International evidence suggests there are additional practices, such as Adductor Canal Blocks (ACB), that may improve post-operative pain and advance achievement of these objectives.[2, 3] A significant driver for change was the positive impact of ACB in a similar local centre.

Methods

Following engagement of key stakeholders, baseline pain scores and analgesic requirements were collected from 22 patients undergoing TKR. During this time, the orthopaedic anaesthetic consultants received teaching and training to ensure attainment of confidence in performing ACB.

ACB were then implemented for all patients undergoing TKR in addition to the standard ERP.[4] The primary outcome measures are to improve pain scores and reduce consumption of rescue analgesia.

Results

The preliminary results (Table 1 and Figure 1) are extremely encouraging and suggest a significant improvement in pain scores following the implementation of ACB. It is hoped that this improvement will facilitate earlier mobilisation and reduced length of hospital stay.

Discussion

The implementation of ACB has not only improved patients' hospital experience, but also united the multidisciplinary team and encouraged improvements in other areas of the ERP journey. Physiotherapists are actively involved in achieving intensive therapy on the evening of surgery. Pharmacists are engaged in liaising with primary care to allow earlier

discharge. Utilising formal quality improvement methodology, we have successfully integrated new techniques into our practice with the goal of providing excellent patient care.

			Baseline Data	With ACB
	Number of patients		22	5
Median Pain Score (Numeric Rating Scale)	At rest	Day 0	3.5	0
		Day 1	4	0
		Day 2	3	1.5
	On movement	Day 0	8	3
		Day 1	7	4
		Day 2	7	6.5
Time Interval to Rescue Analgesia (hrs:mins)			07:15	08:55

Table 1. Results to date of median pain scores and time to rescue analgesia

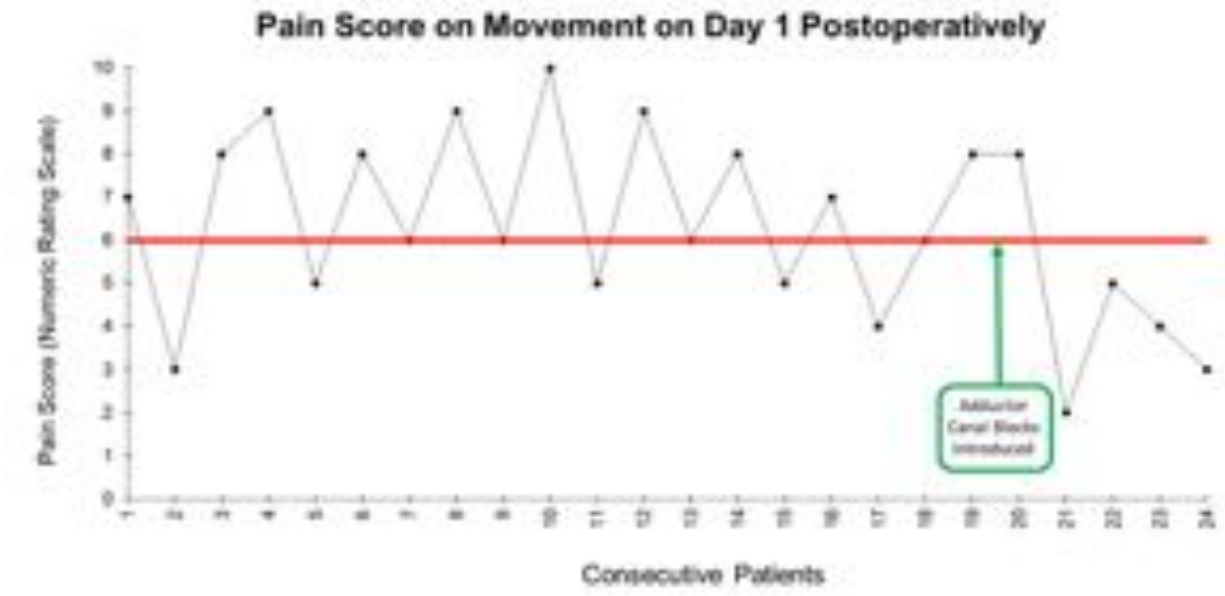


Figure 1. Run chart of pain scores on movement on Day 1 postoperatively

References

1. Aasvang EK, Luna IE, Kehlet H. Challenges in postdischarge function and recovery: the case of fast-track hip and knee arthroplasty. Br J of Anaesth. 2015; 115(6):861-866

2. Rasouli MR, Viscusi ER. Adductor canal block for knee surgeries: An emerging analgesic technique. Arch Bone Jt Surg. 2017; 5(3):131-132

3. Jiang X, Wang QQ, Wu CA, Tian W. Analgesic efficacy of adductor canal block in total knee arthroplasty: a meta-analysis and systematic review. Orthop Surg. 2016; 8:294-300

4. Western Heath and Social Care Trust. Enhanced recovery programme for total hip replacement and total knee replacement. 2017

Poster No: 40

The addition of adductor canal block improves analgesia, functional outcome and decreases hospital length of stay after TKR

Lubica Merjava Skripecka, Nidhi Gupta, Shan Rajkumar, Christopher Goodland, Michael Warnock, Peter Merjavy

Craigavon Area Hospital, Craigavon, United Kingdom

Abstract

Total knee arthroplasty is associated with significant post-operative pain which can lead to delayed mobilisation, increased post-operative complications and reduced patient satisfaction.

The addition of an Adductor Canal Block (ACB) has been shown to provide analgesia in combination with the multimodal analgesia regimen.

Utilising a Quality Improvement (QI) model the ACB was introduced for patients undergoing TKR in Craigavon Area Hospital with the aim of improving post-operative pain management and facilitating early mobilisation.

This QI project demonstrates that the introduction of an ACB in Total Knee Arthroplasty result in better postoperative analgesia, reduced use of opioids, earlier mobilisation with increased range of motion and shorter inpatient stays.

Data was collected on 10 patients during PDSA cycle 1, 18 patients during cycle 2 and 20 patients during cycle 3. Pain scores are 0-no pain, 1-mild, 2-moderate and 3- severe pain.

PDSA	Resting Pain			Movement Pain			ROM		Ambulation
	D0	D1	D2	D0	D1	D2	D1	D2	D0
Baseline	1	1	1	1.5	2	1	67	74	66.6%
1	0	1.5	1	0	2	2	76	78	80%
2	0	0	0.5	0	1	1	72	75	61%
3	0	0	1	0	1	1	74	79	100%

Median oxycodone consumption fell from 90mg in cycle 1 to 25mg in cycle 3.

Across the project median length of stay improved from 112 hours at baseline by 22 hours to 99, 89 and finally 80 hours from PDSA cycles 1 to 3.

References

1. Aasvang E, Luna I, Kehlet H. Challenges in postdischarge function and recovery: the case of fast-track hip and knee arthroplasty. British Journal of Anaesthesia. 2015;115(6):861-866.
2. Ellis T, Hammoud H, Dela Merced P, Nooli N, Ghoddoussi F, Kong J et al. Multimodal Clinical Pathway With Adductor Canal Block Decreases Hospital Length of Stay, Improves Pain Control, and Reduces Opioid Consumption in Total Knee Arthroplasty Patients: A Retrospective Review. The Journal of Arthroplasty. 2018;33(8):2440-2448.
3. Wang D, Yang Y, Li Q, Tang S, Zeng W, Xu J et al. Adductor canal block versus femoral nerve block for total knee arthroplasty: a meta-analysis of randomized controlled trials. Scientific Reports. 2017;7(1).

Poster No: 41

Standardising follow up of patients presenting with headaches post-neuroaxial block insertion

Kaushliya Katechia, Elaine Hart

Leicester General Hospital, Leicester, United Kingdom

Abstract

Introduction Neuroaxial blockade is a favoured regional anaesthetic technique in orthopaedics and obstetrics that carries a risk of rare but significant complications.[(1)] The 2014 MBRRACE-UK reported 2 fatal cases of patients with post-neuroaxial block headaches that were inadequately followed up and misdiagnosed.[(2)] These complications are more common, but not exclusive to the obstetric population. Locally, patient follow-up and documentation was heterogenous post-procedural headache form containing standardised follow up questions and instructions to address this was devised and then audited.

Methods A retrospective audit of completed forms in a 12 month period was conducted. Our standards were that all patients with a suspected/confirmed PDPH should receive written information and anyone having an epidural blood patch (EBP) should be given a 6 week clinic appointment and written notification sent to the GP.

Results 33 forms were completed. 23/33 patients had a suspected/diagnosed PDPH on discharge, and 94% of these patients were given a leaflet. 100% (n=9) patients receiving an EBP were given 6-week follow-up appointments, but only 77% had written notification sent to the GP.

Conclusion Overall compliance with standards was good, except for communication with GP's. Introduction of this form formalised follow up of patients presenting with headaches post-neuroaxial blockade. This audit however, highlighted areas of improvement. We have now revised the form to include GP notification of all dural punctures, and all patients with an EBP to be given an EBP information leaflet, thus improving communication. In addition this form is used in non-obstetric patients, improving patient safety.

References

1. Nepomuceno R, Herd A. Bilateral subdural hematoma after inadvertent dural puncture during epidural analgesia. The Journal of emergency medicine. 2013 Feb 1;44(2):e227-30.
2. Knight M, Kenyon S, Brocklehurst P, Neilson J, Shakespeare J, Kurinczuk JJ (Eds.) on behalf of MBRRACEUK. Saving Lives, Improving Mothers' Care - Lessons learned to inform future maternity care from the UK and Ireland Confidential Enquiries into

Maternal Deaths and Morbidity 2009–12. Oxford: National Perinatal Epidemiology Unit, University of Oxford 2014.

Poster No: 42

Pain relief after shoulder surgery- what happens when the block wears off?

Conor McIvor, Joellene Mitchell, Judith Ramsey

University Hospital Ayr, Ayr, United Kingdom

Abstract

Introduction

Brachial plexus blockade is an effective form of analgesia for shoulder surgery. Once the nerve block subsides pain management becomes a major challenge for anaesthetists[1]. A standard for best practice suggests that 100% of patients should be satisfied with their pain management plan[2].

Methods

Patients consented prior to surgery for a follow up telephone call 2-4 days post-operatively. It was agreed that formal ethics approval was not required and all data was anonymised. Detailed pain scores and analgesia requirements were explored on the follow up.

Results

30 patients identified, 8 lost to follow-up. The average block duration was 25.84 hours. 27% of patients reported severe pain at rest with 45% experiencing severe pain during movement. 36% of patients felt they did not have sufficient analgesia once discharged home. 8 out of 22 felt they needed stronger pain relief. All but 1 patient stated that they would have a repeat nerve block.

Discussions

Once the nerve block wore off it was clear that a large number of patients had inadequate analgesia. Despite the introduction of oxycodone to supplement analgesia, and a patient information leaflet to give advice on pain relief, patients often did not take analgesia as prescribed.

Conclusions

Single injection brachial plexus blocks are limited to a time span shorter than the duration of moderate to severe post-operative pain. The gold standard technique is continuous interscalene blocks (CISB) albeit technically challenging. Future work should concentrate on overcoming the barriers to CISB and aim to increase its uptake[3].

References

1. Beecroft C, Coventry D. Anaesthesia for shoulder surgery, Continuing Education in Anaesthesia, Critical Care & Pain | Volume 8 Number 6 2008

2. RCOA Audit recipes

3. Fredrickson M et al Postoperative analgesia for shoulder surgery: a critical appraisal and review of current techniques *Anaesthesia* 2010;65;608-624