NYSI 1

Paravertebral Block for Modified Radical Mastectomy (MRM): My Experience with 100 Cases Done over a Decade - a Review

Kala Eswaran
Anaesthesiology, Private Practioner, DOMBIVLI / THANE, INDIA

Introduction: Anaesthesia for Modified Radical Mastectomy (MRM) can be achieved by General or Regional Anaesthetic techniques. Regional anaesthetic techniques in practice include epidural anesthesia, intercostal blocks and paravertebral blocks. Paravertebral block (PVB) is relatively safe, easy to perfom, has minimal haemodynamic changes and requires lower doses of anaesthetic drugs. There is no interference by scapula in a PVB in contrast to intercoastal block. Over a decade, around 100 cases of high risk patients (ASA grade 3 or 4) were given PVB exclusively as a regional anaesthetic technique for MRM. A retrospective review is presented.
Case Description: Procedure for all 100 cases: a) Pre-operative preparation: Chest physiotherapy /nebulisation /antibiotics for a week prior to surgery, RBS/Anti-HT drugs /nebulisation b) Procedure :Lignocaine test dose given. Monitors – Pulse-Ox / ECG / NIBP; Oxygen through mask. Patient in sitting position with shoulders and neck relaxed. Superior aspects of spinous processes of C7 to T6 marked. Skin entry points 3 cm. lateral to the previous marks marked. 25G spinal needle was attached to a syringe containing local anaesthetic. Needle inserted perpendicular to the skin at a distance of 2 to 4 cm. until the transverse process was contacted. (Note: It is imperative to locate the transverse process before advancing the needle any further to prevent inadvertent deep insertion and possible pleural puncture). Needle withdrawn and walked caudal off the transverse process and advanced further 1.5 to 2.0 cm. (Note: Limit the insertions to less than 2 cms. past the transverse process) After aspiration 3 - 4 ml of LA was administered after negative aspiration for blood,CSF & air. Onset of sensory loss occurred 10 mins after injection with surgical anaesthesia ensuing 20 to 30 mins. after injection. Local Anaesthetic infiltration was also given in the infraclavicular area and along the sternum medially. c) Post- procedure care: Post procedure X ray chest, cold packs at the site of injections, NSAIDS / IV Paracetamol
Conclusion: PVB enables effective anaesthesia for operative procedures of breast and axilla, reduces PONV and provides prolonged post operative sensory block that minimizes narcotic requirements, hospital stay and reduces recurrence rate.

NYSI 2

PECS Block in Mastectomy: Impact on Hospital Stay

Anoob Pakkar-Hull[1], Abhinav Kant[2], Heather Lain[3]
[1]Anaesthesia, Harrogate District Hospital, Harrogate, UNITED KINGDOM, [2]Anaesthesia, Harrogate District hospital, HARROGATE, UNITED KINGDOM, [3]Acute Pain, Harrogate District hospital, HARROGATE, UNITED KINGDOM

Introduction: Pectoral nerve (PECS) blocks have been shown to provide superior immediate postoperative analgesia following mastectomy. Limited evidence is available evaluating the impact this can have on extended pain relief and length of stay (LOS).
Objectives: A retrospective analysis of 35 mastectomies over a 6-month period with particular emphasis on pain scores and Length of stay (LOS) was performed. Comparisons were made between those receiving a preoperative PECS block versus no block.
Methods: Local R&D approval allowed all 35 patients data to be analysed from integrated electronic theatre and ward records. 35 Cases of Mastectomy between September2015- Febuary 2016 11/35 had PECS block (31%) Pain scores were recorded at 0, 6 and 24 h both at rest and on movement A two tailed

Fisher's exact test was used to evaluate significance
Results: Eleven (31%) patients had a PECS block. The PECS cohort had more pain free patients during rest at 0h, 6h and 24h (81%, 81%, 73%) compared to no blocks (50%, 13%, 29%) [p=0.14, 0.0001, 0.02]. Assessing pain during movement revealed that at both 6h and 24h the PECS cohort had 55% patients pain free compared to 8% and 17% without block [p=0.0013, 0.04]. No PECS block patient had a pain score >5 out of 10 at any time compared to 58% of non blocked patients [p=0.04]. Median LOS for the PECS cohort was 1 day (two were discharged on day 0) compared to 2 days for those with no block.
Conclusion: PECS block resulted in a reduction in post-operative pain At rest and On Movement Both at 6h and 24 h the results were significant PECS may contribute to a decreased LOS post0op ***No patients with PECS block had a pain score > 5 While, 58% without block had a pain score >5 (Two tailed Fischer's exact test)***

NYSI 3

Comparison of Epidural Bupivacaine or Ropivacaine in Combination with Fentanyl or Dexmedetomidine in Patients Undergoing Major Lower Limb Orthopedic Surgery

Vikas Saini[1], Ajay Sriram[2]
[1]Anaesthesia, Post Graduate Institute of Medical Education and Research, Chandigarh, INDIA, [2]Post Graduate Institute of Medical Education and Research, Chandigarh, INDIA

Introduction: Adjuvants are commonly added to posoperative epidural infusions for pain relief following major lower limb surgeries. The sudy was conducted to find out the best infusion regime among the commonly used i.e ropivacaine fentanyl, ropivacaine dexmedetomidine, bupivacaine fentanyl and bupivacaine dexmedetomidine.
Objectives: To compare the analgesic efficacy and patient satisfaction when using different epidural regimens namely ropivacaine fentanyl, ropivacaine dexmedetomidine, bupivacaine fentanyl and bupivacaine dexmedetomidine in patients undergoing major lower limb surgeries.
Methods: After ethical committee clearance and informed consent 80 patients enrolled in study. Patients ASA1-2 divided into 4 groups 1. RF group -- Ropivacaine 0.2% with 2 µg/ml fentanyl infusion 2. RD group-- Ropivacaine 0.2% with 2 µg/ml dexmedetomidine infusion 3. BD group-- Bupivacaine 0.125% with 2 µg/ml Dexmedetomidine infusion 4.BF group-- Bupivacaine 0.125% with 2 µg/ml fentanyl infusion Patients evaluated for VAS at 30 min, 2hr, 4,8, 16 and 24 hrs for pain relief and patient satisafaction score.
Results: VAS score at rest was lower in BD group as compared to other groups at 16 and 24 hrs. VAS score on movement was lower at 8hrs in BD group as compared to rest of the groups. Patient satisfaction was more as compared to other groups from 2hr onwards.
Conclusion: while all the four regimens work well BD regimen i.e. Bupivacaine Dexmedetomidine provides better analgesia and patient satisfaction as compared to other regimens.

NYSI 4

Renal Access - Arteriovenous Fistula Formation and Brachial Plexus Blockade: Service Improvement in a UK NHS Foundation Trust

Amrit Roopra[1], Priya Shinde[1], Suyogi Jigajinni[1], Sheelaj Sharma[1], Aaron Goh[2], Shiva Dindyal[2]
[1]Anaesthesia, Basildon University Hospital, Basildon, United Kingdom, [2]Vascular Surgery, Basildon University Hospital, Basildon, United Kingdom

Introduction: Local Anaesthetic Infiltration (LAI) versus Brachial Plexus Anaesthesia (BPA) for arteriovenous fistula formation (AVFF) in end stage renal disease (ESRD), were compared in a 2016 study (Aitken, 2016). Findings showed – improved perioperative arterial flow, improved venodilation and improved 3 month fistula patency in the BPA group. As General Anaesthesia (GA) in ESRD can be associated with cardiorespiratory complications (Howell, 1998), the use of BPA emerges as the ideal anaesthetic technique for AVFF.
Objectives: Our institute performs 80 AVFFs/year. Pre-intervention, 92% of cases were performed under GA; and 8% under LAI. Of GA cases 100% were admitted overnight. We therefore aimed to introduce a BPA pathway for Awake AVFF, thereby removing GA associated cardiorespiratory risk, reducing inpatient admissions and associated cost, and improving patient experience. Additionally, by employing BPA, as evidence suggests, we hoped to enhance surgical conditions and contribute to improved surgical outcomes.
Methods: With the support of our vascular surgeons and renal physicians, a perioperative pathway was refined ensuring adequate preoperative assessment, patient preparation for BPA, and ambulatory admission/discharge criteria. From August 2016 all patients admitted for AVFF were booked to receive Ultrasound guided BPA. Between August - December 2016, data relating to the procedure, surgical conditions and patient satisfaction was collected (ongoing).
Results: Data for 17 patients was collected. Surgical Approach: 11 Brachiocephalic, 4 Radiocephalic, 2 Brachiobasilic. BPA Approach – 12 Supraclavicular, 3 Infraclavicular, 2 Axillary (both for Radiocephalic fistulae - 1 Musculocutaneous/Radial (MCN/RN); 1 isolated MCN). No patients required intraoperative sedation or local anaesthesia supplementation. All patients scored ‘very satisfied’ with BPA, and preferred BPA to previous GA experiences. Excellent surgical conditions were reported in all 17 cases. All patients were discharged the same day.
Conclusion: We have created an effective pathway for AVFF under BPA. As well as implementing an evidence based service that we hope will improve medium term fistula patency, we have improved patient and surgical satisfaction, while enhancing safety and cost efficiency. Additionally, having demonstrated successful anaesthesia for radiocephalic AVFF using isolated MCN blockade (for which there is little available literature), we will further assess this technique as a simple, lower risk alternative block for radiocephalic fistula formation.

NYSI 5

Comparative Evaluation of Ultrasound Guided Supraclavicular and Infraclavicular Venous Catheterization in Adult Patients

Vikas Saini
Anaesthesia, Post Graduate Institute of Medical Education and Research, Chandigarh, INDIA

Introduction: The subclavian vein (SCV) is preferred for central venous catheterizations due to lower rates of infection, reduced incidence of mechanical complications and thrombosis.However till date no study has compared the relative advantage or safety of ultrasound guided infraclavicular and supraclavicular cannulations in adults.In our study we compare ultrasound-guided supraclavicular and

infraclavicular approaches for subclavian venous catheterization in adults.
Objectives: Primary objective: To compare puncture time of subclavian vein using ultrasound-guided supraclavicular and infraclavicular approaches in adults. **Secondary objectives:**

- To compare total access time using both the techniques.
- To compare first attempt success rate.
- To compare the quality of needle visualization.
- To compare the immediate (mechanical) and delayed complication rates.

Methods: The study was conducted in a tertiary care hospital after approval of Ethics Committee. Randomization was done using computer generated random number tables and the allocations were concealed in sequentially numbered, sealed, opaque envelopes. All the randomised patients were allocated into two groups of 48 each: SC Group (n=48) : US guided right supraclavicular approach to subclavian cannulations. IC Group (n=48) : US guided right infraclavicular approach to subclavian cannulations.
Results: TABLE 3: COMPARISON BETWEEN USG GUIDED SC AND IC CANNULATION

	SC group(n=45)	IC group(n=45)	p value
Quality of needle visualisation Good Poor	27 18	21 24	0.29
First attempt success rate	82.2% (37 out of 45)	62.2% (28 out of 45)	0.26
@Puncture time(in seconds)	15 (9-39)	21 (5-80)	0.21
#Total access time(in seconds)	99.11±34.66	103.44±50.27	0.98
#Attempts of needle puncture	1.20±0.46	1.40±0.54	0.04
#Attempts of guidewire insertion	1.07±0.25	1.16±0.37	0.18
#Catheter insertion length(in cm)	11.49±1.04	12.62±1.37	<0.001

#Values expressed as mean±SD; @Value expressed as median (IQR); quality of needle visualisation expressed as number of subjects. P value<0.05 is significant. SC-Supraclavicular, IC-Infraclavicular
Conclusion: In conclusion, our study shows the Supraclavicular approach to be significantly superior to Infraclavicular approach to subclavian vein in terms of number of attempts required for cannulation.

NYSI 6

Comparison of Continuous Wound Catheter Infusion versus Continuous Epidural Infusion in Upper Abdominal Surgery

Sameer Sethi, Arun Raja Thangavel
Anaesthesiology And Intensive Care, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh, INDIA

Introduction: The technique of continuous wound infusion by placing a multi-holed catheter has been gaining popularity and has proven efficacious in many surgeries including cardiothoracic, pelvic, breast

and spine surgeries, with contradictory results in abdominal surgeries.
Objectives: To compare the efficacy of continuous wound catheter infusion (CWI) with continuous epidural infusion (CEI) in upper gastrointestinal surgery.
Methods: 40 ASA I to III patients aged 18 years to 65 years who consented for this non inferiority trial, undergoing upper abdominal surgery via upper midline incision, were randomized into two groups. Group I - Continuous Wound Infusion (CWI) group in which wound catheter was placed in the musculo fascial layer in the deep subcutaneous plane of incision and Group II - Continuous Epidural Infusion (CEI) group in which thoracic epidural with catheter was placed. Both the groups received 0.2% ropivacaine infusion at 10ml/h following a 10ml bolus. The primary outcome was to compare numerical rating scale (NRS) score postoperatively between these two groups at rest and on movement. Secondary objective was to determine the total morphine consumption, patient satisfaction and other side effects.
Results: There was no significant difference in pain scores both at rest and on movement between the two groups at all time points (table 1). Morphine consumption although higher in the CWI group at all the time points, was not statistically significant. Blood pressure was significantly lower in CEI group in the first 24h post-surgery. Wound Soakage with serous discharge was noted in all candidates in CWI group (p value<0.001). Duration of surgery had a positive correlation with pain scores in CWI group (p value<0.001). Table 1. Postoperative Numerical Rating Scale (NRS) score at rest and on movement at different time points

NRS scores	CEI group	CWI group	P value
At 4h-rest	1.65±0.98	1.95±1.54	0.7934
At 24h-rest	1.1±0.78	1.2±0.95	0.7794
At 48h-rest	0.55±0.6	0.8±0.89	0.4784
At 4h-movement	2.6±1.46	2.9±1.9	0.9563
At 24h-movement	1.55±1.19	1.6±1.27	0.9340
At 48h-movement	0.9±0.91	1.1±0.96	0.5226

CEI-continuous wound infusion;CWI-continuous wound infusion
Conclusion: Analgesia provided by continuous wound infusion catheter is not inferior to continuous epidural infusion in upper gastrointestinal surgery done through upper midline incision with better preservation of hemodynamic parameters.

NYSI 7

Efficacy of Point of Care Inferior Vena Cava Ultrasonography Guided Volume Repletion in Preventing Spinal Hypotension in Elective Surgical Patients

Prem Kumar
Anesthesiology, Critical Care And Pain Medicine, Saveetha Medical College, Chennai, INDIA

Introduction: Spinal anesthesia is commonly associated with hypotension due to decrease in systemic vascular resistance and reduced venous return which in turn reduces cardiac output. Assessing fluid responsiveness by inferior vena cava(IVC) collapsibility index(CI) has been demonstrated as a reliable indicator in critical care and perioperative patients.
Objectives: The objective of the study was to determine the efficacy of point of care IVC ultrasound in guiding volume repletion to prevent post spinal anesthesia induced hypotension and to avoid volume overload in elective surgical patients.
Methods: After obtaining institutional ethical committee approval, 100 adult patients belonging to American Society of Anesthesiologists(ASA) physical status I to III scheduled for elective surgery under spinal anesthesia were recruited and divided into two groups, group E(n = 50) was managed with fluids based on standard institutional practice while in group U(n = 50), IVC ultrasonography was done to assess the CI of IVC during a respiratory cycle before spinal anesthesia and thereafter serial

determinations were done until 1 hour. CI of ≥40% was taken as the threshold for fluid responsiveness and 200 ml of crystalloid was administered. Hypotension was defined as reduction in mean arterial pressure(MAP) >30% from baseline or <60 mm Hg. Outcomes measured were rate of arterial

hypotension and total volume of intravenous fluid infused.
Results: 85 patients were analyzed and failure rate of IVC ultrasonography was 10%. Rate of significant arterial hypotension was 37.5% and 15.5% and total volume of intravenous fluid infused was 1150 ml and 400 ml in group E and U respectively.

DEMOGRAPHIC DATA AND OUTCOME MEASURES

	Empirical fluid group(Group E)(N = 40)	**Ultrasound guided fluid group(Group U)(N = 45)**	**P value**
Age(yr)	49.3 ± 13.58	48.7 ± 13.8	> 0.05
Gender (male/female)	22/18	24/21	> 0.05
BMI(kg/m^2)	24.2 ± 3.7	25.8 ± 4.2	> 0.05
ASA(I/II/III)	25/15/0	30/15/0	> 0.05
Baseline Heart rate (beats/min)	74 ± 11	71 ± 12	> 0.05
Baseline MAP(mm Hg)	95.6 ± 10.4	99.2 ± 9	> 0.05
Number of patients on anti hypertensive therapy/ with Coronary artery disease	10/0	12/0	> 0.05
Rate of significant arterial hypotension (%)	37.5 %	15.5 %	**0.02***
Total volume of IV fluid infused (ml) Median(Inter Quartile range)	1150 (800 to 1600)	400 (200 to 800)	**0.0001***

Conclusion: Point of care ultrasound assessment of IVC CI is an effective method for guiding titrated volume repletion to prevent post spinal anesthesia induced significant hypotension and to avoid volume overload in elective surgical patients.

NYSI 8

Addition of Liposome Bupivacaine in Interscalene Brachial Plexus Block Lowers Postoperative Pain Up to 7 Days After Rotator Cuff Surgery

Shaun De Meirsman, Ine Leunen, Jalil Hassanin, Sofie Louage, Sam Van Boxstael
Anesthesia, Zol Genk, Genk, BELGIUM

Introduction: Surgical repair of the rotator cuff is frequently associated with significant pre and postoperative pain. Dexamethasone and clonidine have been used in interscalene brachial plexus block (ISBPB) to extend the duration of analgesia, yet these additives are not FDA approved and have not been consistent in prolonging postoperative analgesia.1 We examined the efficacy of liposome bupivacaïne (LB), when added to bupivacaïne (Bupi), to provide extended analgesia in the first postoperative week in ISBPB for rotator cuff surgery.
Objectives: Long acting local anesthesia
Methods: In this IRB & FAMHP approved single centre, double blinded study, 40 patients having rotator cuff repair were randomized to receive ISBPB with 15 mL of Bupi 0.25% (Bupi; n=20) or a mixture of 5 mL

Bupi 0.25% and 10ml LB 1.33% (Bupi+LB; n=20). All patients received multimodal postoperative analgesia. Numeric Rating Scale (NRS) scores were obtained for pre and postoperative pain at rest and with movement of the shoulder. Differences from preoperative pain scores were calculated for postoperative hours 36, 48, 72, 96 and 7 d.The effect of Bupi+LB on pain at rest and with movement was examined in regression models that accounted for repeated measures in the first postoperative week. **Results:** Mean NRS scores preoperatively were similar in both groups at rest (2.8;3.4) and with movement (5.85;6.5). Pain at rest and with movement were lowered for the group that received Bupi+LB compared to Bupi. Overall difference from preoperative pain was 0.4 ± 0.6(Bupi) v 1.5 ± 0.6 (Bupi+LB) for pain at rest (multivariate p = 0.032). Overall difference from preoperative pain was 0.9 ± 0.5 v 2.7 ± 0.5, respectively, for pain with movement (multivariate p = 0.014). The effect for both pain at rest and with movement appeared to be decreased approximately two NRS points and was most notable at 96 h

(fig1)
Conclusion: The addition of LB to Bupi significantly decreased postoperative pain compared to baseline up to 7 postoperative days both at rest and with movement

NYSI 9

Bone Cement Implantation Syndrome in a Patient Undergoing Partial Hip Arthroplasty

Johanna Marie Liu, Noemi Buensuceso
Anesthesiology, Veterans Memorial Medical Center, Quezon City, PHILIPPINES

Introduction: Bone Cement Implantation Syndrome(BCIS) is a rare and fatal perioperative event which causes hypotension, bradycardia and desaturation that lead to cardiac arrest. This condition occurs in surgeries that use methyl methacrylate as space fillers. Donaldson (1999) proposed a severity classification of BCIS. Our patient who was undergoing partial hip arthroplasty presented with clinical features of Grade 3 BCIS which comes at an incidence of 0.43% in all cemented hemiarthroplasties.

Table 1. Proposed Severity Classification of Bone Cement Implantation Syndrome	
Grade 1	Moderate hypoxia(Spo2<94%) or hypotension(fall in SBP >20%)
Grade 2	Severe hypoxia(Spo2<88%) or hypotension(fall in SBP > 40%)
Grade 3	Cardiovascular collapse requiring CPR

Case Description: A 67 year old female incurred left hip fracture after slipping on a floor and hip radiograph revealed a subcapital fracture on her left femur. Partial hip arthroplasty was done under continuous lumbar epidural anesthesia. Intraoperative course was uneventful until four minutes after application of the bone cement when desaturation (99% to 60% to 0), along with progressive bradycardia (84bpm to 20bpm), and hypotension (100/60mmHg to 60/40mmHg) were noted for which ephedrine and atropine were given and bag-mask ventilation was done. Despite the immediate management, blood pressure and heart rate continued to fall until patient went into asystole. She was unresponsive and had no spontaneous respiratory effort hence immediate intubation was done and CPR was administered. She was revived after six minutes of external cardiac massage along with two doses of intravenous epinephrine. She was then brought to the ICU for post-arrest management where she had episodes of generalized seizure until cardiac arrest was noted three days post-op. Autopsy was done and revealed bone marrow elements in the pulmonary vasculature suggestive of fat embolism. **Permission secured from patient's relatives.* Figure 1. Microscopic section of the lung tissue revealing bone marrow elements

Conclusion: This is a documented case of a Bone Cement Implantation Syndrome based on the observed intraoperative cardiopulmonary collapse and the identified bone marrow elements found in the pulmonary vasculature.

NYSI 10

Validation of an Arabic Version of the American Pain Society-Patient Outcome Questionnaire

Khaled Abdelmotaleb[1], Tarek Hemaida[2], Rosemary C. Polomano[3], Huda Fahmy[2], Nabil M Elkassabany[4]
[1]Anesthesiology And Critical Care, Faculty of Medicine, Aswan University, Aswan, EGYPT, [2]Department Of Anesthesiology And Critical Care, Aswan University, Aswan, EGYPT, [3]Department Of Biobehavioral Health Sciences, University of Pennsylvania School of Nursing, Philadelphia, PA, UNITED STATES OF AMERICA, [4]Department Of Anesthesiology And Critical Care, University of Pennsylvania, PA, PA, UNITED STATES OF AMERICA

Introduction: The American Pain Society-Patient Outcome Questionnaire-Revised (APS-POQ-R) was designed to assess the quality of postoperative pain management in hospitalized patients over 24 hours. It measures 5 domains for pain outcomes; pain severity, interference with function and sleep, adverse effects, perception of pain control, and use of alternative methods for pain control.
Objectives: To validate the APS-POQ-R Arabic version for the purpose of qaulity improvement, clinical research and clinical practice.
Methods: The work group that developed the APS-POQ-R encourages its use in local clinical settings. The instrument is translated into 11 languages including Arabic [2]. We piloted tested the survey in 25 Arabic fluent patients before proceeding with a validation study. The Arabic APS-POQ-R was then completed by 200 Egyptian patients at Aswan University Hospital, Aswan, Egypt, 24 hours after surgery. Internal consistency reliability (Cronbach's alpha) was measured, and group comparisons and correlations conducted.
Results: Two-hundred patients (males n=79, 40%) completed the survey instrument. Means and standard deviations (STD) for age and BMI were (43±17) and (28±4), respectively. Worst pain over 24 hours was significantly higher ($P<0.01$) for orthopedic surgery (n=49, 24%) compared to general abdominal, urologic and gynecologic surgery (n=128). Patient satisfaction was positively correlated with perception of pain relief, $r=0.634$, $P<0.001$ (figure 1A), and negatively correlated with the percentage of time in severe pain, $r=-0.602$, $P<0.001$ (figure 1B). Acceptable reliability was demonstrated (Cronbach

alpha = 0.78).
Conclusion: The Arabic APS-POQ=R version was found to be reliable and valid in detected significant differences in the sample. These findings extend the research on the APS-POQ-R in culturally diverse populations.

NYSI 11

Effect of Palonosetron on Postoperative Nausea and Vomiting after Total Knee Arthroplasty under Spinal Anesthesia

Soo Won Lee[1], Young Tae Jeon[1], Jung-Won Hwang[1], Hee-Pyoung Park[2], Young-Jin Lim[2]
[1]Anesthesiology And Pain Medicine, Seoul National University Bundang Hospital, Seongnam, KOREA, REPUBLIC OF, [2]Anesthesiology And Pain Medicine, Seoul National University Hospital, Seoul, KOREA, REPUBLIC OF

Introduction: Preemptive multimodal pain protocols used in total knee arthroplasty (TKA) provoke emetic events after TKA.The antiemetic efficacy achieved by palonosetron prophylaxis in high risk patients remains unclear
Objectives: This study was designed to investigate whether palonosetron prophylaxis reduces postoperative nausea and vomiting (PONV) in patients managed with multimodal analgesic regimens.
Methods: We randomized 115 patients undergoing TKA to receive either palonosetron (palonosetron 0.075 mg i.v.; n = 59) or no antiemetic prophylaxis (normal saline i.v. control group, n = 56). All patients were given spinal anesthesia, continuous femoral nerve block, fentanyl-based intravenous patient controlled analgesia.The incidence of nausea and vomiting, severity of nausea, pain levels and opioid consumption, requirement for rescue antiemetics and complete response were evaluated during three periods (0-2, 2-24, and 24-48 h postoperatively).
Results: The incidence of PONV was lower in the palonosetron group compared to the control group (22.0% vs 41.1%, p = 0.028), especially 2-24 h (20.3% vs 39.3%, p = 0.026) after surgery. The severity of nausea was lower in the palonosetron group. Complete response rate and satisfaction score was higher in palonosetron group.
Conclusion: Palonosetron reduced postoperative nausea and vomiting in the first 48 h, especially during the 2-24 h after surgery. Based on our results, palonosetron can be considered a promising antiemetic agent as one of comprehensive PONV protocol.

NYSI 12

Comparative Study of Intraperitoneal Instillation of Bupivacaine and Ropivacaine for Postoperative Analgesia in Patients Undergoing Laparoscopic Cholecystectomy

Rohit Kadian[1], Veena Chatrath[2], Amar Prakash Kataria[2], Radhe Sharan[2], Manjit Singh[2], Bhanavath Gopichand[2]
[1]Anaesthesiolgy And Critical Care, Government Medical College Amritsar, Punjab, INDIA, [2]Government Medical College Amritsar, Amritsar, INDIA

Introduction: Laparoscopic cholecystectomy is now the gold standard for treatment of symptomatic gallstones. After this surgery patients suffer visceral and shoulder pain secondary to peritoneal insufflation. Use of intraperitoneal instillation of local anaesthetics has been used to reduce postoperative pain and decreases the need for postoperative analgesics.
Objectives: To evaluate the efficacy and to compare Intraperitoneal Instilllation of Bupivacaine and Ropivacaine for postoperative analgesia in patients undergoing Laparoscopic Cholecystectomy in relation to :

- To study the postoperative analgesic effect.
- Duration of postoperative analgesia (hours).
- To assess the need of rescue analgesics in postoperative in both groups.
- Haemodynamic changes.

Methods: After ethical committee's clearance and informed consent,60 patients with symptomatic cholelithiasis, aged 18-65 years, of either gender, ASA grades I to III scheduled for laparoscopic cholecystectomy were included. Patients were randomized into two groups with 30 patients in each group: Group A: Patients who will be given 20 ml of 0.5 % Bupivacaine intraperitoneally after cholecystectomy. Group B: Patients who will be given 20 ml of 0.5 % Ropivacaine intraperitoneally after cholecystectomy.
Results: Pulse rate, Systolic blood pressure and Diastolic blood pressure were comparatively lower in Group-B than in Group-A. The VAS score was significantly lower in Group-B from postoperative 5th hr to 12th hr. Rescue analgesia was given when VAS was > 6 cms. VRS score was significantly lower in Group-B from postoperative 7th hr, showing longer duration of analgesia in this group. The rescue analgesia requirement was also less in Group-B.

Conclusion: I, hereby conclude that the instillation of Bupivacaine and Ropivacaine intraperitoneally is an effective method of postoperative pain relief in laparoscopic cholecystectomy. It provides good analgesia in immediate postoperative period with Ropivacaine providing longer duration of analgesia.

NYSI 13

A Retrospective Study on Intraoperative Cardiac Arrest in a Tertiary Hospital: Characteristics of Arrest and Predictors for 3-Month Mortality after Arrest in Adults

Hee-Pyoung Park[1], Min Hur[1], Young-Jin Lim[1], Young-Tae Jeon[2], Jung-Won Hwang[2]
[1]Anesthesiology And Pain Medicine, Seoul National University Hospital, Seoul, KOREA, REPUBLIC OF, [2]Anesthesiology And Pain Medicine, Seoul National University Bundang Hospital, seongnam, KOREA, REPUBLIC OF

Introduction: Predictive factors related to clinical outcomes after intraoperative cardiac arrest were not fully established.
Objectives: The objective of this study was to identify factors related to 3-month mortality after arrest in patients with intraoperative cardiac arrest.
Methods: The electronic medical records of 238,648 adult patients who underwent a surgical procedure under general anesthesia, regional anesthesia, or monitored anesthetic care from Jan 2005 to Dec 2014 were retrospectively reviewed. This retrospective study was approved by the Institutional Review Board of Seoul National University Hospital (number: 1612-049-813).
Results: Intraoperative cardiopulmonary resuscitation due to cardiac arrest was performed in 50 patients (21/100,000 surgeries). 19 (38%) patients died in operating room. 31 (62%) patients died at post-arrest 3 months. Duration of cardiac compression (1.106 [1.017-1.202], P = 0.019), anesthesia-related arrest (0.014 [0.000-0.625], P = 0.028), and initial cardiac rhythm of VT/VF (0.042 [0.004-0.450], P = 0.009) were independent factors for 3-month mortality after arrest. 15 patients, of 31 patients who were successfully resuscitated from intraoperative cardiac arrest, showed an unfavorable clinical outcome (cerebral performance category score 3-5) at post-arrest 3 months. Emergent surgery (8.591 [1.059-69.694], P = 0.044) and inotropes or vasopressor continuous infusion in intensive care unit (14.625 [1.272-168.155], P = 0.031) were predictive of an unfavorable 3-month clinical outcome in such patients.
Conclusion: Long duration of cardiac compression, non-shockable cardiac rhythm, and non-anesthetic cause for arrest were associated with 3-month mortality after intraoperative cardiac arrest. Also, emergent surgery and inotropes or vasopressor continuous infusion in intensive care unit were related to unfavorable clinical outcomes at post-arrest 3 months in patients who were successfully resuscitated from intraoperative cardiac arrest.

NYSI 14

Longer Utilization of Non-opioid Treatment Options in Developing Country than in the US Prior to Opioid Prescription for Patients with Non-Cancer Pain

Filip Jovanovic[1], Nebojsa Ladjevic[2], Jelena Jovicic[3], Dejan Nesic[4], Kenneth D. Candido[5], Tatiana Tverdohleb[5]
[1]Department Of Anesthesiology, Medical School, University of Belgrade, Belgrade, SERBIA, [2]Department Of Anesthesiology, School of Medicine, University of Belgrade, Belgrade, Serbia, Clinical Center of Serbia, Belgrade, Serbia, Belgrade, SERBIA, [3]Department Of Anesthesiology, Clinical Center of Serbia, Belgrade, Serbia, Belgrade, SERBIA, [4]Departmen Of Physiology, School of Medicine, University of

Belgrade, Belgrade, Serbia, Belgrade, SERBIA, [5]Department Of Anesthesiology, Advocate Illinois Masonic Medical Center, Chicago, IL, USA, Chicago, IL, UNITED STATES OF AMERICA

Introduction: Opioids become a primary pain medication prescribed in developed countries. In the USA, prescription writing of opioids has increased 300 percent in the past decade.
Objectives: The purpose of this prospective study was to compare the utilization of other pharmacological and non-pharmacological treatments between a developing country (Serbia) and the US prior to introducing opioids.
Methods: This study was approved by the ethics committee Medical School University of Belgrade, Serbia, and Advocate Healthcare IRB, Chicago, IL, US. We enrolled 84 patients from Serbia and 118 from the US, who are diagnosed with chronic non-cancer pain and are taking opioid medications for pain management.
Results: of this preliminary study showed that patient population talking opioids in the US was much younger (average age 50.2±13.8 vs. 68.5±12.8, $p<0.05$). The gender ratio between males and females was similar, in Serbia 42.9% were males and 57.1% females, and in the US 45.8% were males and 54.2% females. The most frequent location of pain was neck and low back pain in both countries (78% in Serbia and 72.7% in the US). The average pain at rest was higher in Serbia (8.7±1.7) than in the US (5.3±2.2) and during movement in Serbia (7.3±2.1) than in the US (6.9±2.6). In the US most frequently used opioid was hydrocodone by 62%, followed by tramadol by 24%, hydromorphone by 16%, oxycodone by 12% and fentanyl by 8% of study patients. In Serbia oxycodone was used by 85.7%, tramadol by 7.1% and fentanyl by 3.6%, and tapentadol by 3.6% of study patients. Patients in Serbia have used NSAIDs longer (42.4±5.3 months) than patients in the US (33.6±6.9 months) prior to opioid use, with the similar average effectiveness 26.4 vs 23.4%. Patients in Serbia also used other non-pharmacological treatments (physical therapy, chiropractor manipulation, massage, acupuncture, TENS, etc.) much longer (average 28.3±6.5 months) than in the US (average 19.1±9.6 months) prior to opioid use ($p<0.05$).
Conclusion: The results of this preliminary study showed longer utilization of NSAIDs and other non-pharmacological therapies prior to opioid prescription in a developing country when compared to the US.