Conclusions The PENG block provides a better quality of recovery after hip fracture surgery with preservation of quadriceps muscle strength.

OP041 THE ED95 DOSE OF COMMONLY USED LOCAL ANAESTHETICS FOR ULTRASOUND-GUIDED (USG) AXILLARY BRACHIAL PLEXUS BLOCKS: A PROSPECTIVE RANDOMISED TRIAL

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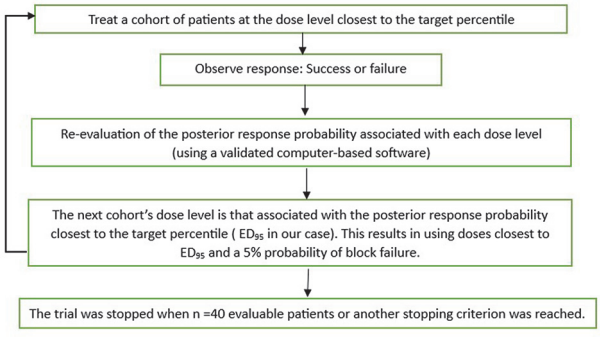
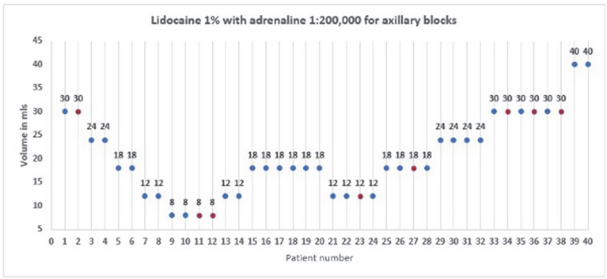
Background and Aims The Continual Reassessment Method can provide a direct and reliable estimate of the dose at the desired percentile level. We used it to estimate the optimal doses of lidocaine 1% and 2% (both with adrenaline 1:200,000) for ultrasound-guided axillary plexus blocks as there is a lack of high-quality evidence in the literature regarding them.

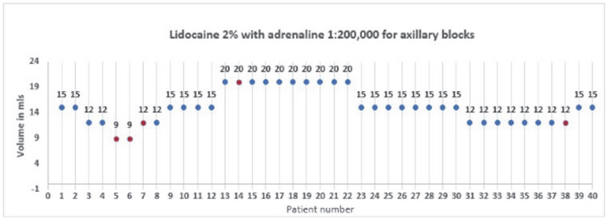
Methods Following local ethics committee approval, we invited patients of ASA grade I-III, BMI ≤40, presenting for an awake upper limb surgery to participate in this triple-blind, prospective trial. We randomised consenting patients between the two study drugs using the sealed envelope method. Two expert operators (experience of >1000 USG blocks) administered all the blocks under ultrasound guidance. We used 30mLs and 15mLs as the starting doses for lidocaine 1% and lidocaine 2% with adrenaline 1:200,000 respectively. Figure-1 shows the summary of the study design. We considered a block successful if there were no cold or pin prick sensations in the distribution of the four main peripheral nerves of the brachial plexus 30 minutes after the block was sited.



Abstract OP041 Figure 1 Flow chart illustrating the trial design based on the continual reassessment method: a bayesian adaptive method



Abstract OP041 Figure 2 Dose allocation sequence and patient outcomes in the study using lidocaine 1% with adrenaline. Blue dot=Successful block; Red dot=Ineffective block



Abstract OP041 Figure 3 Dose allocation sequence and patient outcomes in the study using lidocaine 2% with adrenaline. Blue dot=Successful block; Red=Ineffective block

Results We recruited forty analysable patients in each group (figures 2 and 3) and estimated the ED95 for lidocaine 1% and 2% with adrenaline 1:200,000 as 400 mgs (95% Credibility Interval: 89.5% to 99.2%) and 300mgs (95% Credibility Interval: 87.4% to 97.5%) respectively.

Conclusions We estimate 40mLs of lidocaine 1% (adrenaline 1:200,000) and 15mLs of lidocaine 2% (adrenaline 1:200,000) have a 95% probability of success for an ultrasound-guided axillary block sited using 'in-plane' multiple injections technique. Reference:Garrett-Mayer E. Clin Trials. 2006;3(1):57-71

OP042 COMPARISON BETWEEN PERIARTICULAR INFILTRATION, PERICAPSULAR NERVE GROUP AND SUPRAINGUINAL FASCIA ILIACA BLOCKS ON POSTOPERATIVE FUNCTIONAL RECOVERY IN TOTAL HIP ARTHROPLASTY: PRELIMINARY RESULTS FROM A RANDOMIZED CONTROLLED CLINICAL STUDY

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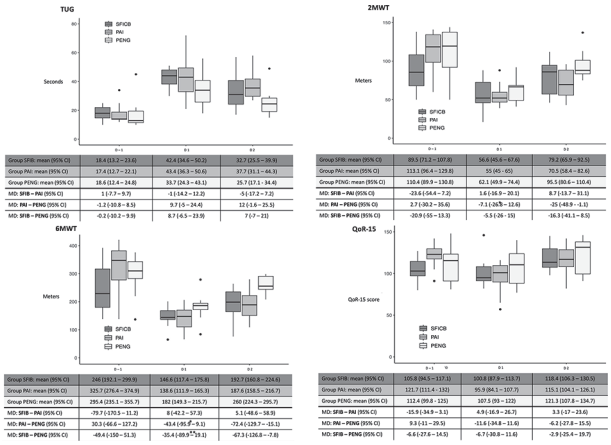
Application for ESRA Abstract Prizes: I apply as an Anesthesiologist (Aged 35 years old or less)

Background and Aims Pain after posterolateral-approached total hip arthroplasty (PLTHA) may affect early functional

recovery. Periarticular infiltration (PAI), pericapsular nerve group (PENG) or supra-inguinal fascia iliaca (SFIB) blocks have been proposed to provide adequate analgesia but SFIB as opposed to PAI and PENG may potentially impair quadriceps strength. Our aim was to compare these techniques regarding functional recovery during the first 48 hours following PLTHA.

Methods Thirty consenting patients scheduled for PLTHA with spinal anesthesia were prospectively and randomly allocated into three groups. Patients received either SFIB [40mL ropivacaine 0.375% (SFIB group) or saline (PAI group)], or PENG [20mL ropivacaine 0.75% (PENG group)]. They also received PAI [40mL ropivacaine 0.375% (PAI group) or saline (SFIB and PENG groups)]. A blinded observer noted the evolution of quality of recovery-15 (QoR-15) score, timed-up-and-go (TUG), 2-minutes (2MWT) and 6-minutes-walking (6MWT) tests 1-day before surgery (D-1), and at day-1 (D1) and day-2 (D2) after surgery. Data were analyzed using generalized linear mixed model tests.

Results Time-group interaction was significant for TUG (P=0.04), 2MWT (P<0.01), 6MWT (P<0.01) and QoR-15 (P<0.01). At D2, post hoc comparisons revealed that the PAI group had shorter walking distance (2MWT) than the PENG group, and that the PENG group had a better 6MWT performance than the PAI or SFIB group. QoR-15 remained comparable between groups (figure 1).



Abstract OP042 Figure 1

Evolution of French validated Quality of Recovery-15 items, distance walked (meters) at the 2-minute walk test (2-MWT) and 6-minute walking test (6-MWT), and time taken (seconds) to perform the Timed Up and Go test (TUG), over the time points of interest (D–1= 1 one day before surgery; D1 = one day after surgery; D2 = 2 days after surgery) in group SFIB (dark grey), group PAI (light grey) and in group PENG (white). Numbers have been rounded up to the first decimal, with the 95% confidence interval (95% CI) of the means and of the mean difference (MD). Box plot of results obtained in each group. Bold line = median; lower error bar = minim data value; lower box limit = lower quartile; upper box limit = upper quartile; upper error bar = maximum data value; dot = outlier.

Conclusions In PLTHA, PENG is superior to PAI and SFIB regarding early walking ability, despite similar functional recovery as assessed by the QoR-15. These results need to be confirmed once the planned sample size (219) will have been recruited.

OP043 AN ILIOPSOAS PLANE BLOCK REDUCES OPIOID CONSUMPTION AFTER HIP ARTHROSCOPY BY 56% WITHOUT COMPROMISING AMBULATION. A DOUBLE BLIND, RANDOMIZED TRIAL

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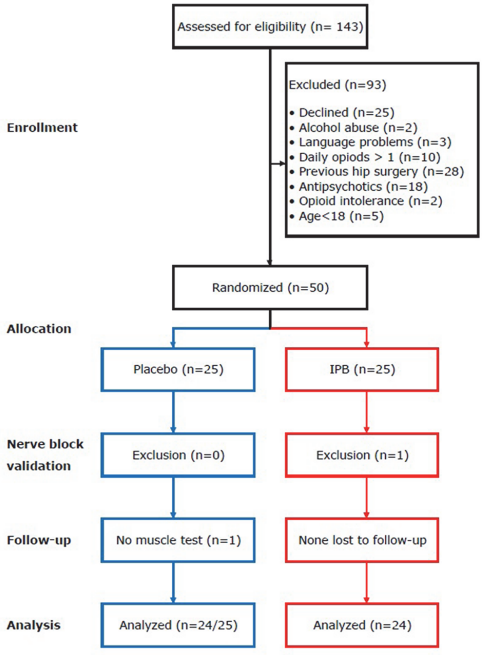
Background and Aims Hip arthroscopy is associated with pain due to the intraoperative stretching of the hip capsule and the surgical intervention. Pain is predominantly generated by nociceptors in the anterior part of the hip joint capsule, which is innervated by the femoral nerve. Pain can be relieved by a femoral nerve block that impedes ambulation or opioids causing nausea and vomiting. An iliopsoas plane block (IPB) anesthetizes the hip joint capsule without compromising the ability to ambulate

Methods In a randomized double-blind trial approved by the Central Denmark Region Committee on Health Research Ethics 50 patients scheduled for hip arthroscopy in general anesthesia were randomized to active or placebo IPB (figure 1). The primary outcome was IV morphine equivalent consumption the first three postoperative hours in the post anesthesia care unit (PACU). Secondary outcomes were pain (NRS 0-10), nausea and ability to ambulate.



Abstract OP043 Figure 1 Consort diagram of patient flow in the study. Placebo (Blue); IPB, iliopsoas plane block (Red)