ESRA1-0069
THE ADDITION OF EPIDURAL OR INTRA VENEOUS DEXAMETHASONE DID NOT AFFECT POSTOPERATIVE ANALGESIA FOLLOWING COMBINED SPINAL EPIDURAL ANESTHESIA FOR CESAREAN DELIVERY: A RANDOMIZED CONTROLLED TRIAL
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Background and aims: Combined spinal epidural (CSE) anesthesia is commonly used to provide anesthesia and postoperative analgesia for Cesarean section. The beneficial effects of intravenous (IV) or epidural (EPI) dexamethasone (DXM) on postoperative analgesia have been demonstrated in several non-obstetric patient populations.

We hypothesized that IV or EPI dexamethasone would both decrease postoperative morphine consumption after Cesarean delivery.

Methods: Following Ethical Committee approval and obtaining written informed consent, 150 patients presenting for elective Cesarean delivery were included in this double blind, randomized, placebo controlled study. All patients received a CSE with hyperbaric bupivacaine 0,5% (1,5ml) and sufentanil 2,5 μg intrathecally. Patients were randomized to three groups: Group 1 received EPI-DXM 10mg and IV saline, Group 2 received EPI saline and IV DXM 10 mg and Group 3 received EPI and IV saline. Study drugs were administered following delivery of the neonate.

Intravenous patient controlled morphine analgesia (bolus only mode, PCIA) was started postoperatively. Primary study outcome was total morphine consumption during the first 48hours.

Descriptive statistics were used for baseline demographics. Results are reported as medians and interquartile range. Kruskal-Wallis test was used to analyze differences between groups.

Results: The median total morphine consumption for the first 48hours was 8 (3–13), 9 (2–18) and 9 (3–19) mg for groups 1, 2 and 3 respectively (p=0.56).

In addition, analysis of cumulative morphine consumption at specific time intervals (postoperative time +6hrs, 12hrs, 24hrs, 48hrs) could not demonstrate significant differences between groups.

Conclusions: The IV or EPI administration of DXM has no effect on total morphine consumption following elective Cesarean delivery. This is in contrast to previous studies in the non-obstetric population.

ESRA1-0167
IMPACT OF BLOCK TECHNIQUE ON RESPIRATORY FUNCTION IN SHOULDER SURGERY- A COMPARISON OF CONTINUOUS SELECTIVE SUBOMOHYOIDAL SUPRASCAPULAR NERVE VS INTERSCALENE BLOCK
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Background and aims: Interscalene nerve blocks (ISC) include major risks for neural damage and a significant impact on respiratory function due to phrenic nerve paralysis. Selective subomohyoidal blocks of suprascapular nerve (NSS) provide an effective pain reduction in major shoulder surgery by leaving the phrenic nerve unaffected. The present study therefore investigated incidence and extent of impaired respiratory function with either technique in a randomized controlled trial.

Methods: After IRB approval (BB093/13), 48 patients scheduled for elective shoulder surgery were randomized to receive either a continuous ISC or NSS block, applied using ultrasound and using a bolus of 10 ml Ropivacaine 0.2% followed by a continuous infusion of 4 ml/h as an anesthetic during and after the surgical procedure. The anatomical conditions for NSS identification within the subomohyoidal path, the respiratory function by means of ultrasonographically measured diaphragmatic inspiration amplitude (DIA), and the cumulative opioid consumption for 72 hours were assessed.

Results: In all 48 patients, the NSS could be readily identified in the subomohyoidal path, 24 patients received the ISC vs. 24 patients the NSS block. While NSS blocks were as effective in reducing pain scores as ISC blocks in the intra- and postoperative course, (p=0.47), phrenic nerve paralysis, as defined by reducing the DIA more than 40% was significantly linked to the ISC, compared to the NSS block (62.5 vs. 4.8%, p=0.001).

Conclusions: Continuous selective blocks of the subomohyoidal path of the suprascapular nerve provide a comparable pain reduction for shoulder surgery,
while significantly reducing the impact on respiratory function compared to the interscalene block technique.

**ESRA1-0173**

**IMPACT OF THE EPIDURAL ANESTHESIA ON IMMUNE CELL REDISTRIBUTION AND CYTOKINES IN SPINAL DEFORMITY SURGERY**

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**Background and aims:** Surgical stress and postoperative pain can cause accelerated apoptosis of lymphocytes (Deloga G, 2001). Accelerated lymphocyte depletion may be associated with an increased risk of infection, thus EA can improve resistance to infections.

**Methods:** In a randomized, controlled, prospective trial 103 patients were divided into two equal groups as follows: Group E (n=54) had continuous epidural analgesia with ropivacaine and fentanyl after surgery (PCEA); Group G (n=49) had general anesthesia with sevoflurane and fentanyl and systemic administration of opioids after surgery (PCA). Circulating cytokines (IL-1β, IL-6, IL-10, TNF). C-reactive protein (CRP), cortisol, and cell-surface receptor expression of immune cells (cluster of differentiation HLA-DR+/CD3+, HLA-DR+/CD3+, HLA-DR-, CD3-, CD4, CD8, CD16, CD19, CD16/56+, and CD16/56+/CD3+) were measured postoperatively to characterize immunological functions.

**Results:** Natural killer cells have decreased significantly in Group E receiving PCEA compared with Group G. T-lymphocytes (CD3+) have decreased in all patients, but they were significantly lower in patients receiving opioids, compared with PCEA. In patients receiving PCEA postoperative CD4/CD8 ratio and B cells have increased, and NK-cells (CD16/56+) have reduced by postoperative day 3. All circulating cytokines, CRP and cortisol were significantly less in Group E. Thus, epidural anesthesia is important in modulating immune system response in patients. Epidural anesthesia may reduce postoperative stress responses and thereby influence immune functions. All immune changes have strongly correlated with pain scores postoperatively.

**Conclusions:** Epidural anesthesia attenuates surgical stress response in patients undergoing spinal deformity surgery and prevents lymphocyte apoptosis, thereby protects against infection during perioperative period.

**ESRA1-0215**

**MECHANISMS OF ANALGESIC EFFICACY OF ADDUCTOR CANAL BLOCK (ACB): A CADEAVER STUDY**

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**Background and aims:** The ACB provides excellent analgesia after knee surgery. Branches of the sciatic nerve contribute to the sensory innervation of the knee, as do branches of the femoral and obturator nerves. Therefore, we performed a cadaver study to test the hypothesis that in addition to the block of branches of the femoral nerve in their path through the adductor canal, the analgesic efficacy of the ACB is related in part to a spread of the local anesthetic solution outside the adductor canal, into the popliteal fossa resulting in the block of branches of the sciatic nerve. The administration of LA into the axilla via interpectoral fascia ultrasound-guide block technique and a Serratus-intercostal fascial ultrasound-guide block: anterior approach. We review the results in a MRI to determine the axilla spread of agents injected via anterolateral interfascial thoracic planes, in order to determinate the axilla analgesia of the Pec’s block and SIFP block.

**Methods:** After verbal informed consent, 15 patients listed for axillary surgery were recruited to a radiological study. Institutional review board approval was obtained to conduct the magnetic resonance imaging (MRI) studies. The ultrasound blocks were performed in the side of surgery. The injected usually consist of twenty mL of levobupivacaine 0,25%+adrenalina 1.200 000. Then we conducted a Pec’s ultrasound-guide block technique and a Serratus-intercostal fascial ultrasound-guide (SIFP) block: anterior approach. We review the results in a MRI to determine the axillary region spread of agents injected via anterolateral interfascial thoracic planes, in order to determinate the axilla analgesia of the Pec’s block and SIFP block.

**Results:** This study evaluates and demonstrates the feasibility to use an ultrasound guided approach to block the axillary region. Our study shows that the IPPF and SIFP provide a potential space into which local anaesthetic can be deposited to achieve sensory blockade of the axilla.

**Conclusions:** The administration of LA into the axilla via interpectoral fascial plane (IPFP) and via serratus-intercostal fascial plane (SIFP) before surgery represents a simple and efficacious means to provide postoperative analgesia.

**ESRA1-0233**

**OPTIMAL VOLUME OF LOCAL ANESTHETICS FOR THE ADDUCTOR CANAL BLOCK — USING THE CONTINUOUS REASSESSMENT METHOD TO ESTIMATE THE ED95**

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**Background and aims:** Theoretically, the optimal volume of local anesthetics for adductor canal block (ACB) would ensure sufficient spread throughout the