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ORAL PRESENTATION

CEREBRAL OXYGENATION USING NEAR-INFRARED SPECTROSCOPY IN BEACH-CHAIR POSITION DURING SHOULDER ARTHROSCOPY UNDER DIFFERENT ANAESTHESIA TYPES

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Background. Patients undergoing shoulder arthroscopy in beach chair position are at increased risk for cerebral hypoperfusion and desaturation, devastating neurologic ischemic episodes are described in literature. Comparing different anaesthesia regimens has been poorly described in this type of operations. **Aim.** To compare cerebral oxygenation, incidence of desaturation events and neurocognitive outcomes between regional with sedation and mixed (general and regional) anaesthesia in patient undergoing shoulder arthroscopy in beach chair position. **Material and methods.** 28 patients undergoing shoulder arthroscopy in regional (group I; N=14) or mixed (group II; N=14) anaesthesia were enrolled in this prospective observational study. Noninvasive near-infrared spectroscopy method was used to measure cerebral oxygenation in both hemispheres. Oxygenation decrease $\geq 20\%$ from baseline or absolute value $< 55\%$ for > 15 seconds was defined as desaturation event. Heart rate, cerebral oxygenation, peripheral oxygen saturation, noninvasive mean arterial pressure (MAP), minimum alveolar concentration (MAC) of sevoflurane, end-tidal CO₂ were registered every 5 minutes during operation. Before surgery and day after surgery mini-mental state examination (MMSE) test were evaluated. Statistical analysis was done using SPSS v.22. **Results.** Groups were similar demographically. Mean arterial pressure was higher in the Ist group (83.8 ± 7.5 mmHg vs. 68.9 ± 3.7 mmHg; $p < 0.001$). Total cerebral oxygenation was lower in the Ist group ($75.1 \pm 8.8\%$ vs. $84.2 \pm 9.4\%$; $p < 0.001$), but while comparing cerebral oxygenation in each moment of measurement between groups, only in 29.4% significant differences were found (after beach-chair position, after 35 and 50 minutes of operation, in the end of operation and after supine position). The incidence of cerebral desaturation was 1,3% in the Ist group and 0,3% in the IIInd group. Neurocognitive tests results were better in both groups after operations (Ist group: 27.3 ± 2.2 and 29.1 ± 0.7 ; $p = 0.461$; IIInd group: 25.8 ± 2.8 and 27.7 ± 1.9 ; $p = 0.028$). **Conclusions.** Even with higher mean arterial pressure, cerebral oxygenation was lower in the Ist group, because propofol inhibited spontaneous respiration and oxygen therapy through nasal cannulas did not provide as high cerebral oxygenation as in intubated patients. Nevertheless, both anaesthesia types can be equally safely applied in this type of operations.

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COMPARISON OF VARIOUS SPINAL MORPHINE DOSES AFTER CAESAREAN DELIVERY

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Background. Caesarean delivery rates are increasing worldwide and effective postoperative pain management is a key priority for women undergoing caesarean delivery. After caesarean section, patients experience moderate to severe pain. Inadequate pain management in the acute postoperative period is associated with persistent pain, greater opioid use, delayed functional recovery, and greater risk of postpartum depression. One of the recommendations for ensuring sustained analgesia after cesarean delivery is spinal administration of morphine. Despite the sustained and very effective analgesia, morphine is known to have dose dependent side effects. However, the optimal dose is yet to be established. **Purpose.** The aim of this study was to compare analgesia and side effects of low dose (50 or 100 µg) intrathecal morphine administration with a control group. **Material and Methods.** Study included 128 patients who had caesarean delivery. Patients who met inclusion criteria, were randomly assigned into 1 of 3 groups. All patients had spinal anaesthesia with 11 mg 0.5% bupivacaine and 10 µg fentanyl to which 50 µg of morphine (M50), 100 µg of morphine (M100) or no morphine (M0) was added. In postoperative period, pain, nausea, pruritus was evaluated by a 10-point visual analogue scale (VAS) 3, 6, 12 and 24 hours after receiving spinal anaesthesia. Analgesic therapy was implemented for all patients in accordance to a protocol. Patients experiencing pain, based on VAS at rest ≥ 4 , were additionally given 50 milligrams meperidine. The episodes of vomitus were noted. Data on meperidine use in postoperative period were collected. **Results.** Women who received intrathecal morphine 50 or 100 µg had lower pain scores and opioid use compared with control group. Mean pain scores 12 hours after surgery were 2.61 ± 2.26 in M50 group versus 2.05 ± 2.05 M100 group versus 4.08 ± 2.31 M0 group. M50 and M100 used less meperidine in the first 24 h after surgery compared to M0 group. Mean meperidine consumption in milligrams were 27.27 in M50 group and 27.63 in M100 group compared to 60.89 in M0, respectively. However, women receiving intrathecal morphine had more episodes of pruritus. Mean pruritus score 12 hours after surgery were 0.45 ± 1.08 in M50 versus 1.23 ± 2.25 in M100 group compared to 0.02 ± 0.14 in M0, respectively. Also episodes of nausea and vomitus increased among patients who received morphine versus control patients. Risk of vomitus among patients who received 50 µg morphine was 9% versus 31.5% among patients who received 100 µg versus 2.1% in control group. **Discussion.** Spinal morphine 50 and 100 µg provided better analgesi

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N. ISCHIADICUS BLOCK AS A PART ON MULTIMODAL ANALGESIA IN LOWER EXTREMITY SURGERIES

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Introduction. Severe pain level in postoperative period is still a notable problem. Despite the pain therapy available today, research shows that generally pain remains under-treated. If the pain is controlled insufficiently it can lead to adverse consequences such as increased morbidity and mortality risk, extended hospitalization time, increased medical costs, reduced patient life quality and may lead to chronic pain syndrome. Multimodal techniques for postoperative analgesia have proved its effectiveness in numerous studies. A multimodal approach in pain therapy is ensured by acting on each pain component. Although SA is effective, additional peripheral nerve blocks could analgesise the surgical region longer, therefore decreasing the consumption of opioids. It is anticipated that n. ischiadicus block (NIB) in combination with SA could provide additional analgesia in lower extremity surgeries below the knee. **Aim.** The objective of this research is to study the postoperative pain level after lower extremity surgeries below the knee after performing n. ischiadicus block and to evaluate its connection with the consumption of opioids. **Material and Methods.** Prospective, randomized study was done in Hospital of Traumatology and Orthopaedics, Riga, Latvia from August 2017 to March 2018. Patients were divided in two groups. I group - SA group – SA with Sol. Bupivacaine 2-4 ml 0.5%, according to patient BMI. II group - NIB group - SA and NIB with Sol. Ropivacaine 20 – 40 ml 0.375%, according to patient BMI. Postoperatively all patients received pain therapy by a standardized multimodal analgesia protocol, that includes paracetamol, metamizole and naproxen. Rescue medication was morphine 10 mg p/o (maximum dose – 40 mg p/o per 24 h). In the postoperative period patients self-completed a pain journal. The consumption of rescue morphine was documented. The data is statistically processed using SPSS program. **Results.** 52 patients were enrolled to the study, SA group - 25, NIB group – 27. The subjective pain level right after the surgery in SA group vs NIB group: 0.4 : 0. The subjective pain 2 hours after surgery in SA group vs NIB group: 1.24 : 0.22 ($p > 0.05$). The subjective pain level 4 hours after the surgery in SA group vs NIB group: 2.52 : 1 ($p > 0.05$). The subjective pain level 6 hours after the surgery in SA group vs NIB group: 5.24 : 2.74 ($p > 0.05$). The subjective pain level 8 hours after surgery in SA group vs NIB group: 4.68 : 3.44. The subjective pain level 10 hours after surgery in SA group vs NIB group: 4.16 : 4.07. The mean time until rescue morphine in SA group was 7.04 hours; in NIB group – 7.89 hours ($p < 0.05$). **Conclusions.** Spinal anesthesia in combination with N. ischiadicus block effectively reduces pain after lower extremity surgeries below the knee. N. ischiadicus block does not lower the consumption of morphine after surgery.

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POSTER PRESENTATION

POSTOPERATIVE PAIN MANAGEMENT STRATEGIES AND DELIRIUM AFTER TRANS-APICAL TAVI

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Introduction: Trans-apical approach for trans-catheter aortic valve implantation (TA-TAVI) with mini-thoracotomy and cardiac myotomy is a well-established surgical treatment modality. The method is applied for high-risk patients with severe symptomatic aortic valve stenosis. This is an alternative method for elderly patients with significant co-morbidities and high risk of conventional cardiac surgery (Ferrari E. & von Segesser L. K., 2010). TA-TAVI has been performed in Latvia since 30 September 2009. Postoperative pain management is one of the main directions in postoperative patients' care. The most common pain management methods are intravenous analgesia with opioids and paravertebral anesthesia. The risk of postoperative delirium (POD) in patients undergoing TA-TAVI exceeds 30% (Sharma V. et al., 2016). Postoperative pain and systemic opioids are recognised risk factors for POD. Aim of the study: We hypothesised that perioperative paravertebral analgesia with local anaesthetic would reduce the need for postoperative systemic opioids, and decrease the incidence of POD after TA-TAVI when compared to systemic opioid-based analgesia. Methods: After institutional ethics review board approval, and informed consent, a prospective, randomized controlled study was conducted in patients undergoing TA-TAVI. Patients with a history of serious mental illness, delirium, severe dementia, and/or patients with contraindications to regional anaesthesia were excluded. Patients were randomised to receive either paravertebral analgesia with local anaesthetic or intravenous analgesia with Fentanyl infusion 0.005-0.01 µg/kg/min. Patients in both groups received general anaesthesia with endotracheal intubation. Thoracic paravertebral catheter was sited before surgery in an awake patient. Patients received a bolus followed by continuous infusion of local anaesthetic up to 48 hours after surgery. Assessment of delirium was performed with confusion assessment method for ICU or confusion assessment method after discharge from ICU at 12-h intervals during the 7 postoperative days. Results: A total of 44 patients were randomised to either paravertebral group (n = 22), or intravenous group (n = 22). The overall POD was detected in 12/44 (27%) patients, with 7/22 (32%) in the intravenous, and 5/22 (23%) in the paravertebral groups respectively, p = 0.73. Postoperative morbidity and hospital length of stay was similar between the two groups. Conclusions: POD rates were similar in the paravertebral (study group) and intravenous (control group) after TA-TAVI procedures. Paravertebral analgesia was associated with reduced systemic opioid requirements during the 48 hours postoperatively.

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THE EFFECT OF A NEW PERIOPERATIVE ANESTHETIC AND REHABILITATION REGIMEN ON THE POSTOPERATIVE PAIN, SIDE EFFECTS, COMPLICATIONS AND HOSPITAL STAY AFTER PRIMARY TOTAL HIP REPLACEMENT

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Background Total hip arthroplasty (THA) is a replacement of damaged parts of the hip joint with a prosthesis. Length of stay (LOS) after THA is ~8 days. Long LOS is associated with greater hospital infection risk, and increases patient and hospital costs. The "fast-track" principle is used in treating the patient by accelerating recovery, reducing the risk of dysfunction and complications. Important part is early mobilization, that, until now, was initiated only on the first postoperative day (POD1) due to pain and long-acting spinal anesthesia (SA). Aim The aim of the study is to investigate the effects of early patient mobilization on postoperative pain, adverse events, complications and LOS after primary THA using short acting local anesthetics (LA) in SA. Materials and methods A prospective, randomized study was conducted at the Hospital of Traumatology and Orthopedics from September 2017 until March 2018. The study included 46 patients, who had primary THA surgery. Patients were divided into control and study groups. S. Prilocaine 60 mg was used in the study group (P) and S. Bupivacaine 18 mg was used in the control group (B). Both groups received multimodal analgesia. After surgery, patients started mobilization on the day of surgery (P) or on POD1(B). Data was collected about pain while stationary and in motion using the Numeric Rating Scale (NRS), adverse reactions, blood loss, and LOS. Patients were contacted one week after their discharge, and their pain levels, ability to use the stairs, and self-care skills were assessed. Statistical analysis was done using SPSS Statistics V.25.0, with Chi-squared test, Cramer's V correlation coefficient, Mann-Whitney test and Eta correlation coefficient. Results Mean age was $56,7 \pm 12,79$ years. There was statistically significant reduction ($PMV = 4,95 \times 10^{-2}$) of LOS for patients in P group by ~1 day ($6,91 \pm 1,41$ days) compared to B group ($8,00 \pm 1,79$ days). Mean NRS score was lower ($PMV = 1,71 \times 10^{-2}$) in P group (NRS $2,00 \pm 1,72$ P; $3,33 \pm 2,08$ B) in POD1 during motion. Ability to ensure self-care was better in P group (90,91% positive) than B group (62,50% positive). Result was close to statistical significance ($P\chi=0,07$), and there was correlation ($V=0,34$) between use of prilocaine and better self-care. Other differences weren't statistically significant. There were no complications or readmissions during this study. Conclusions The "fast-track" principle can be used in Latvian hospitals to reduce post-operative pain and LOS. It probably can ensure better self-care abilities, but further studies are needed.

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POSTER PRESENTATION

THE INFLUENCE OF FENTANYL ON THE FORMATION PROCESS SELECTIVE SPINAL BLOCK

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The influence of fentanyl on the formation process selective spinal block . Burtsev D. Kobelyatsky Yu. (Dnepr). Filimonov R. Shapoval S. (Zaporozhye). (Ukraine) Selektive spinale anesthesia (SSA) is used in lower extremity surgery due to the following advantages: • sympatic blockade is not expressed. • There are no violations of thermoregulation. • There are no violations of the pelvic organs. • "compartment-syndrome" does not develop. • well tolerated by patients. • favorably affects the course of the postoperative period. • low cost price. However, the degree of controllability, the process of forming a one-sided block, is still insufficient, which forces patients to rest on the anesthetized limb, before the max. term fixation of anesthetic-30 '. To reduce the fixation time to min-10 ', it is proposed to use fentanyl in a dose of 6.5 µg. Materials and methods: In the dep. purulent surgery of Clinical Hospital No.4 of Dnipro, under SSA of bupivacaine, in patients with ASA III-IV, 56 amputations of the femur were performed, 28 in combination with fentanyl, when ischemia requiring urgent surgical treatment developed in individuals elderly and senile age (65 - 85 years), due to the severe course of atherosclerosis of the vessels of the lower extremities, against the background of: a) One or more myocardial ifarktion. b) One or more cerebrovascular acc. c) Diabetes mellitus type II. d) Combinations of these diseases. • On the operating table, the patient was on side in the Fowler position 3-5 °. • Puncture of the spinal space - LII-LIII with a Sprotte 25G needle. • Anesthetic- hyperbaric bupivacaine 10 mg. • Control of the speed-ultrasound machine. • The rotation was carried out: • without the addition of fentanyl after 30 '. • with the addition of fentanyl after 15 '. • Operative interventions were carried out in the position of a "folding knife". • The quality of the block was taken into account on the Bromage scale. Results : • The duration of the operations did not exceed one hour. • All operations proceeded stably and without complications. • After the operation, patients, if necessary, were transferred to the ICU. • In the group of patients who only received bupivacaine and the turn was made in 30 ', there were no cases of bilateral block development. • In the group where bupivacaine was administered in combination with fentanyl and the turn was performed at 15 ', development of a short-term (10-15'), unexpressed (Bromage I-II) block, on the opposite side, was noted in eight cases. • Cases of inadequate anesthesia, in both groups of patients, were not observed. Conclusions: The proposed method allows: 1. Provide adequate anesthesia; 2. Avoid double-sided block in most cases; 3. Adding fentanyl anesthetic to the reagent reduces the fixation time and increases the degree of controllability of the anesthesia as a whole; 4. The block, which in this case, can develop from the opposite side, has no clinical significance.

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IMPACT OF SINGLE PREOPERATIVE DOSE OF INTRAVENOUS IRON ON REDUCTION OF POSTOPERATIVE FATIGUE AFTER TOTAL HIP REPLACEMENT SURGERY

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Background: Total hip replacement (THR) surgery is associated with decreased pain, however desired levels of postoperative physical activity are not always achieved [1]. One of the causes of delayed return to normal physical state is postoperative fatigue (POF) [2]. POF is associated with physiological response to surgery and is one of the main symptoms of iron deficiency [3, 4]. Aim: The aim of the study was to evaluate the effect of one dose of intravenous iron isomaltoside in terms of reduction of POF after THR. Methods: The randomized controlled trial was carried out in the Department of Anesthesiology, Hospital of Lithuanian University of Health Sciences. Study involved 36 non – anemic patients, who were randomly divided into two groups: G1- received one dose of 100 milligrams of iron isomaltoside, during preoperative period and G0 - placebo. Total blood count, transferrin and transferrin saturation (TSAT) were measured 24 and 72h after the THR. POF was assessed using a questionnaire 72h and 4 weeks after the THR. The severity of fatigue (SOF) was measured on a scale from 1 (no fatigue) to 10 (worst fatigue). Data were analyzed using SPSS software. Statistical significance - $p < 0.05$. Results: The groups were comparable in the study beginning (age (G0 64 ± 10 , G1 62 ± 12 years), female to male ratio (G0 12/5, G1 12/7), body mass index (G0 30 ± 6 kg/m², G1 30 ± 5 kg/m²), number of cases according to ASA (in order I/II/III) (G0 4/12/1, G1 2/16/1) and Hb (G0 136.06 ± 14.63 g/L, G1 137.26 ± 17.01 g/L)) ($p > 0.05$). 24 h after THR decrease of Hb was observed in both groups (G0 120.59 ± 16.92 g/L, G1 127.35 ± 20.97 g/L) and remained low 72h after THR (G0 105.71 ± 13.28 g/L, G1 108.95 ± 11.53 g/L). There was no difference in changes of Hb between the groups during the study period ($p > 0.05$). TSAT at 24 and 72h after THR was lower in G0 (G0 $31.88 \pm 16.82\%$ vs G1 $49.12 \pm 25.46\%$, G0 $11.18 \pm 3.45\%$ vs G1 $16.84 \pm 9.90\%$) ($p < 0.05$). No difference was found in terms of the SOF between the groups 72h after THR (G0 3.00 ± 2.18 vs G1 3.44 ± 2.31) ($p > 0.05$). 4 weeks after THR SOF was lower in the G1 (G0 3.29 ± 1.10 vs G1 1.83 ± 0.71) ($p < 0.05$). The changes of the SOF from baseline to the level at 4 weeks were in favor of G1 (G0 0.29 ± 1.86 , G1 -1.53 ± 2.20) ($p < 0.05$). Dyspnea during physical activity 72h after THR did not differ between groups (G0 1.35 ± 0.70 , G1 1.28 ± 0.67) ($p > 0.05$). However, G0 more frequently presented with dyspnea 4 weeks after THR (G0 1.53 ± 0.63 , G1 1.06 ± 0.24) ($p < 0.05$). Mood disturbance caused by POF presented in both groups equally 72h after THR (G0 1.18 ± 0.39 , G1 1.17 ± 0.51) ($p > 0.05$). At 4 weeks mood disturbance was more common in G0 (G0 1.53 ± 0.51 , G1 1.06 ± 0.24) ($p < 0.05$). The changes in mood scores from baseline to the level at 4 weeks after THR were in favor of G1 (G0 0.35 ± 0.61 , G1 -0.11 ± 0.32) ($P < 0.05$). Conclusions: Preoperative treatment with a single intravenous dose of iron isomaltoside provides a rise in TSAT at 24 and 72h after THR and this is accompanied by a positive effect on POF scores.

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GENICULAR NERVES CRYODESTRUCTION EFFECTIVITY IN CASE OF KNEE OSTEOARTHRITIS

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Background. Knee joint osteoarthritis (OA) is the most frequent cause of chronic knee pain. It is a joint inflammation resulting from the cartilage degeneration. The most common symptom of the osteoarthritis is pain in the joint after repetitive use. In the United states, symptomatic OA is diagnosed in 13% in men population and 10% in women population older than 60 years. There are 4 stages of knee OA: 1- minor, 2- mild, 3-moderate, 4-severe. Knee joint is innervated by the articular branches of various nerves: femoral, common peroneal, saphenous, tibial and obturator nerve. These branches are called genicular nerves.

Aim of the study. To evaluate the effectiveness of genicular nerves cryodestruction in the treatment of chronic knee pain in case of 3. and 4. stages of chronic knee osteoarthritis. **Material and Methods.** Retrospective, descriptive study. Design of this study has been approved by RSU ethics committee (Nr. 80/21.12.2017). Sensory nerve cryodestruction is a minimally invasive method when we use extreme cold to brake sensory innervation. The procedure is performed under direct fluoroscopy guidance, using aseptic technique and local anaesthesia. By using sensory nerve stimulation we localise genicular nerves, then attach the cryoprobe to the needle and perform nerve destruction 4,5 minutes. During the procedure the temperature on the tip of the needle decreases till -78°C , producing the axonal damage and nerve degeneration distal to the place of the damage. This process is reversible, so the procedure is effective for a period of time about 6 months. The patients of D.A.P. Pain clinic, who had genicular nerve cryodestruction for treatment of 3. and 4. stages of knee osteoarthritis in the period of time from February till December 2017 have been enquired by phone after the procedure. Exclusion criterias were anticoagulant use, allergy to local anaesthetics, communication problems. If one patient had the treatment of both knee joints he was registered twice. 90 \pm 2 days after the procedure the patients have been evaluated for pain perception (using numeric rating scale (NRS)) and global perceiving effect (Likert scale). The results of the procedure have been evaluated by a person, who was not involved in patients treatment. **Results.** From 25 patients, who had genicular nerves cryodestruction, 21 were left after applying the exclusion criteria. 4 (19%) were men, 17 (81%) - women. The mean age was $74,8 \pm 12$ SD years. Average pain level (NRS) before the procedure was $8,2 \pm 0,7$ SD, 90 \pm 2 days after the procedure $4,9 \pm 2,1$ SD. Average Likert scale value was $5,6 \pm 1,2$ SD. Overall 16 patients (76%) considered improvement in their condition after the procedure, 12 patients (57%) showed improvement more than 50%. No complications occurred. **Conclusion.** Genicular nerves cryodestruction is an effective method of treatment of chronic knee pain due to 3. and 4. stages of knee osteoarthritis.

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ADMINISTRATION OF PREGABALIN FOR SHOULDER ARTHROSCOPY

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Background: Shoulder surgery can be associated with severe postoperative pain and discomfort. Pregabalin used as a part of multimodal approach could improve pain relief effect after shoulder arthroscopy under general anaesthesia with an interscalene block. Goal of Study and Methods: The main objective was to find whether preoperative administration of Pregabalin could improve the pain relief in early postoperative period. We conducted prospective observational study of 61 patients who underwent shoulder arthroscopy and received premedication either with Dormicum 7.5 mg (group D, n=29) or with Dormicum 7.5 mg and Lyrica 150 mg (group DL, n=29) 30 minutes before the surgery. All patients received standardized multimodal pain therapy with Paracetamol, Codeine, Arcoxia and Palexia after surgery. Pain was assessed with Visual Analog Scale (VAS), severe pain was defined if VAS > 8 points. The primary outcome was appearance of severe pain (VAS > 8) in the first 24 hours after the surgery. Secondary outcomes included differences in opioid requirements, adverse effects and sleep patterns. Results: After ethical approval, 61 patients with a mean age 50.7 ± 14 years were enrolled in the prospective study. Three patients were excluded due to inadequate interscalene block when pain was detected in 2 hours after the surgery. Patients had shoulder arthroscopy (n = 26), arthroscopic rotator cuff repair (n = 29), arthroscopic stabilization (n = 2) or arthroscopic biceps tenodesis (n = 1) under general anaesthesia with Phentanyl, Propofol, Tracrium and Sevoflurane combined with interscalene block. For the last Sol. Ropivacaini 0.75% - 20ml and Sol. Lidocaine 2% - 5 ml was used. Appearance of severe pain was detected less often in DL group compared to D group 3 (10%) vs. 9 (31%); $p = 0.045$ with an average onset of 280 ± 139 minutes after surgery. Sol. Promedoli 2%-1 ml as rescue pain control drug more often was received in D group 8 (28%) vs. 2 (7%) in DL group; $p = 0.03$. Prolonged awakening after anaesthesia and drowsiness were more often observed in DL group, 9 ± 2.5 vs. 14 ± 2 min; $p < 0.0001$ and 3 (10%) vs. 14 (48%); $p = 0.001$, respectively. Conclusions: Administration of Pregabalin before the shoulder arthroscopy may decrease the incidence of severe pain and reduce the usage of opioids in early postoperative period but intensify sleep patterns.

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A COMPARISON OF TWO DIFFERENT ANALGESIA METHODS FOR LABOUR: EPIDURAL ROPIVACAINE WITH FENTANYL VERSUS INTRAVENOUS FENTANYL

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Background: Systemic opioids and epidural anesthesia are widely used for moderation of labour pain. Despite observed pain relief, both anesthesia methods also show side effects. Systemic opioids cause sedation, respiratory depression, nausea and vomiting. Epidural anesthesia induces low blood pressure, headache, urinary retention. Material and Methods: A prospective survey study on different analgesia methods in postpartum women was conducted in the Obstetrics and Gynaecology centre at Vilnius University Hospital Santaros clinics. Patients were divided into two groups: group A included patients, who received epidural ropivacaine with fentanyl, group B - who received intravenous fentanyl during labor. Analgesia methods were compared by side effects during and after labour: nausea, emesis, pain of back, itching, urinary retention, trembling, mood changes. The effectiveness of analgesia has been assessed with Visual Analogue Score for pain. The data was analysed using SPSS v23.0 Chi-square and Student's t test. P values <0.05 was considered statistically significant. Results: 58 women (mean age 29,64 ± 5,81 years) were included in the present study. 35 patients received analgesia during labor, while 23 - did not. Group A consisted of 16 (45,7%) patients, while group B consisted of 19 (54,3%) patients. Patients who received epidural analgesia had a significantly higher incidence of urinary retention compared with patients who received intravenous fentanyl (60% vs 5,56%, P=0,032). No other statistically significant differences were observed regarding other side effects, pain scores and levels of satisfaction between A and B groups. Trembling was observed in 47,83% of women who did not receive analgesia versus 68,75% of women who received intravenous fentanyl during labor. Conclusions: According to the Visual Analogue Scale, intravenous fentanyl and epidural ropivacaine with fentanyl analgesia appear to have similar efficacy for reducing pain. Patients who received epidural analgesia had urinary retention statistically more often compared with patients who received intravenous fentanyl. There were no statistically significant differences in levels of satisfaction and other side effects between both groups during and after labour. Further investigations are needed to explain higher rates of trembling in women who did not receive intravenous fentanyl.